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1380 (5100)

REGION ONE

ANNUAL NARRATIVE FIRE REPORT

CALENDER YEAR 1967

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE - REGION ONE
MISSOULA, MONTANA

1380 (5100)
Missoula, Montana
December 1967

REGION 1

ANNUAL NARRATIVE FIRE REPORT

C.Y. 1967

Approved: December 15, 1967

NEAL M. RAHM, Regional Forester

By E. R. DeSilvia

Region 1

ANNUAL NARRATIVE FIRE REPORT

Season of 1967

	Page
Highlights of 1967 Fire Season.	1
Weather Highlights of the 1967 Season	4
Weather Summary	5
Area Burned	12
Lightning Fire Occurrence	17
Man-Caused Fires.	20
Regional Fire Management.	23
Project Fires	25
Extra-Period Fires.	29
Overhead and Support.	32
Organized Crews	33
Interregional Suppression Crew Summary - 1967	34
Personnel Employed on Fire Control Activities	37
Smokejumping.	38
Retardant Use	46
Aircraft Use - Fire Control	48
Highlights of Central Fire Cache Warehouse Operations	49
New Equipment and Supplies.	50
Cooperation	52
Lives Lost.	54
Law Enforcement	54
Land Ownership Protection Report.	55

HIGHLIGHTS OF 1967 FIRE SEASON

Zone "A" - Clearwater, Coeur d'Alene, Colville, Kaniksu, Nezperce, and St. Joe National Forests.

The 1967 fire season on these Forests was the most severe in the Region and resulted in the largest suppression expenditures ever experienced in Region 1.

The long, arduous duration of the 16,600-acre Trapper Peak fire and the violent and disastrous Sundance fire on the Kaniksu Forest, made this season one to be long remembered.

The beginning of the season, including June and early July, had no earmarks of being anything other than just an average fire season even though precipitation was slightly below normal.

The first buildup index reading in the extreme range occurred on July 27. By August 9, every Forest in Zone A was reporting buildup indexes of extreme. Extreme ratings continued to be reported until September 30 when general rainfall occurred. The highest buildup reported in this zone was 515 on the Newport District, Kaniksu National Forest.

Low humidities, high temperatures, and a lack of precipitation during July, August, and September produced one of the longest periods of severe fire conditions in many years.

The number of lightning-caused fires was the greatest ever recorded on the Nezperce Forest and much above the 10-year average on most of the other Forests. Lightning storm occurrence was generally below normal but the high number of fires was due to a few severe storms accompanied with little or no moisture and exceptionally dry fuels.

Humidities were reported at several stations as low as 5 percent. Periods of subsidence conditions existed causing temperatures to remain high and humidities to continue unusually low through the night.

Strong winds of 30 to 40 miles per hour on September 1 produced violent burning conditions on the Trapper and Sundance fires. The Sundance fire burned an average of 100 acres per minute for an 8-hour period during its major run.

The 490-acre Dry Mountain fire on the Colville Forest was influenced by a severe snow breakage. The snow damage occurred in lodgepole and alpine timber types in thick stands of pole-size timber. These numerous dead tops were responsible for the rapid spread of this fire.

Man-caused fires in this zone were only slightly above average. The comparatively low number of man-caused fires during this season was undoubtedly influenced by the closing of the National Forests during the most hazardous periods. The general Forest closure enforced this season was

the first time in the history of Region 1 that such extreme prevention measures were ever invoked.

The Nezperce Forest experienced similar burned acreage and number of class E fires in 1961. The Forest estimated that the average suppression cost was $67 per acre in 1967 as compared to $125 per acre in 1961. This reduction is attributed to the use of retardant on initial attack, use of organized fire crews, minimum suppression action on high country fires of low resource value, and better business management practices by fireline personnel.

There were 44 project-size fires in this zone, most of them occurring during the period August 11 to September 6.

Many units of National Guard and military equipment were used on the Kaniksu, Nezperce, and Clearwater fires including helicopters, field kitchens, trucks, airport control towers, airport crash trucks, ambulances, shower units, jeeps, etc.

Zone "B" - Bitterroot, Flathead, Kootenai, and Lolo National Forests.

The fire season for these Forests was considerably more severe than normal. The months of May and June were generally wet and cool. The period starting about the middle of July through September was exceptionally dry and hot. The buildup index climbed to 559 at one station on the Kootenai and the other Forests reported buildup indexes to be extreme from 25 to 60 days starting about August 1.

Lightning storm occurrence was about normal or below but precipitation accompanying the storms was very sparse, especially after the middle of July.

Man-caused fires were considerably above pars and probably were the highest on record for the Kootenai and Lolo Forests. An excessive rash of railroad fires was experienced this season due to unusually low humidities.

The number of project-size fires and the burned area was remarkably low on these Forests considering the unusually hot and dry conditions during August and September. Average high temperature and average low humidity records were some of the most extreme ever recorded at Libby, Kalispell, and Missoula. Both the Kootenai and the Flathead recorded periods up to 67 days with no appreciable precipitation.

Zone "C" - Beaverhead, Custer, Deerlodge, Gallatin, Helena, and Lewis & Clark National Forests.

The fire season in zone "C" was about an average season. The months of May, June, and July were wet and cold. The latter part of August and most of the month of September were the only periods that presented any serious

fire conditions. The buildup index did not reach extreme until August 23. The late season caused some concern because of an abundant grass stand due to the wet spring. However, the light fuels generally did not cure out sufficiently to be a serious threat except at the lower elevations.

Lightning storm activity was about normal and many of the storms were accompanied by considerable moisture. There were only five project-size fires during the season in this zone.

Probably the most severe impact on these Forests during the 1967 season was the manpower and equipment they were required to send to the west side Forests. Most District and Forest fire caches were stripped of pumps, radios, and 25-man standard outfits to replenish the Regional fire warehouse. Manpower forces were reduced to only 25 to 40 percent of normal because of details to fires on western Forests. The Lewis & Clark and the Custer Forests were very active in recruiting and dispatching organized Indian crews.

Man-caused fires were a little below average which is attributable to the short dry spell and the publicity given the extreme fire situation existing in the western part of the Region.

WEATHER HIGHLIGHTS OF THE 1967 SEASON

Above normal precipitation and below normal temperatures persisted through late June, both east and west of the Continental Divide.

Strong high pressure ridge aloft persisted generally through July, August, and most of September causing extended periods of high temperatures, low humidities, and frequent periods of subsidence west of the Divide.

East of the Divide summer temperatures were slightly below normal, and residual soil moisture from heavy spring rains south of the Missouri River helped prevent buildup of severe drying conditions. Driest conditions occurred north of the Missouri but reduced lightning frequency was responsible for the few number of fires.

West of the Divide a very small amount of precipitation occurred about September 11, but no definite general break in the unusually dry conditions occurred until the latter part of the month. East of the Divide a general heavy rain ended the fire season by the middle of September.

WEATHER SUMMARY
West of Continental Divide
Missoula Fire Weather District

Preseason Weather

Two contrasting weather regimes prevailed over the prefire season months of November to June. During the first part of the season, November to February, a strong zonal circulation prevailed across the Pacific Ocean and the northwestern states including Montana. This strong westerly circulation reached its peak during February, at which time the zonal index of westerlies was higher than at any time since this type of record was started in the mid-1940's. As a result, mild Pacific air was consistently circulated across the Missoula Fire Weather District during the months of November, December, January, and February. Temperatures during the months of November and December averaged 2 to 4 degrees above normal and temperatures during the months of January and February averaged 8 to 10 degrees above normal. At Missoula, in the center of the fire weather district, the 3 winter months of December, January, and February had an average temperature of 31.7 degrees which was the second warmest winter since weather records were started in 1893. The coldest temperature recorded at Missoula during the winter months was 7 degrees above zero. Precipitation over the Missoula Fire Weather District during the period from October through February as measured by the regular low level reporting stations was very near normal except that February was dry with about 50 percent of normal precipitation. This, however, was not a very good indication of the amount of precipitation that fell as snow at higher elevations. Orographic lifting of the strong wind flow during this period evidently increased precipitation with altitude at a greater rate than normal and resulted in heavier snow accumulation than normal at the higher elevations. As of February 1, the high elevation snow courses had above normal snowpack and in parts of the Flathead and Kootenai National Forests the snowpack was at a near record level.

During the month of March a new weather regime of colder than normal temperatures was established. The strong westerly circulation broke down over the Pacific Ocean and a trough of low pressure was established along the Pacific Coast. This trough persisted either along the Pacific Coast or over the western states through the spring months into June. As a result the spring weather over the Missoula Fire Weather District was mostly cold and wet. Temperatures during the period averaged 3 to 4 degrees below normal and April was especially cold averaging 4 to 6 degrees below normal. Low level precipitation from March through June averaged considerably above normal and snowfall at the higher elevations, particularly during the month of April, was unusually heavy. On May 1, water content of the snowpack continued to increase on practically all snow courses when it would ordinarily

10 30

NF

1908 - 1934 - 5,540,765

Proof Bay

6,288,742

1910 - $.29¢ per acre suppression costs

1961 - $181.58 per acre

1961 - 181.58

1967 - 83,498 A

1961 - 63,474 A @ $181.58/A

1910 - 2,725,796 A @ 29¢/A

1919 - 1,514,554 A

1934 - 344,772 A.

be melting. The mountain snowpack was the highest to second highest of record in the Flathead, Kootenai, and portions of the upper Clark Fork drainages. The snowpack continued to increase through mid-May with the first reduction from melting occurring during the latter part of May. Snow surveys made near June 1 showed that the delayed snowmelt had carried to that date and that water contents in general were the highest of record for June 1. Ideal melting conditions during the last half of May and the first part of June allowed the river drainages to carry off a large volume of water over a long period and averted serious flooding. However, some snow remained at high elevations into the beginning of the regular fire season in early July.

Fire Season Weather - July through September

The circulation pattern began to change in late June with a slow eastward movement of the long wave features, but westerlies continued weak at midlatitudes. By the second week in July, a strong high pressure ridge aloft had formed over the western states with equally strong low pressure troughs to the east and west of the ridge. This semipermanent long-wave pattern persisted through the latter part of July, all of August, and most of September.

The blocking ridge of high pressure aloft was not only unusually strong and persistent, but it gradually shifted farther west as the season progressed. During July a few Pacific storms moved close enough to the coast to inject moisture into the upper airstream which resulted in periods of scattered showers and thundershowers over the fire weather district. These intrusions gradually became less frequent through August and September as the blocking high pressure ridge moved closer to the coast. Pacific storms that broke through the northern extension of the ridge near the Canadian border in August and September originated over relatively cold Pacific waters and carried very little moisture inland. However, the brief temperature and pressure contrasts associated with weak cold fronts caused brief windy periods, mostly over the northern part of the district.

The weather in July was much warmer and drier than normal, but no records were broken in this district for high temperature or rainfall deficiency. However, a new record for low humidity for the month of July was set at Colville, Washington. Based on records beginning in 1928, the average July low humidity is 27.2 percent. In July 1967, the average low humidity was 18.4 percent. The previous low record for July was 20.8 percent in 1960. A review of the available records from Gisborne Mountain Lookout since 1947 shows that July 1967 was 2.4 degrees warmer than the average for the last 20 years. The 1600 PST relative humidity averaged 10.8 percent lower than the 20-year average of approximately 47 percent. Rainfall at Gisborne Lookout was 0.35 inches in July 1967 compared to an average of approximately 1.25 inches. Maximum temperatures averaged 4 degrees above normal and rainfall was about one-half of normal at Missoula. The 1700 MST relative humidity at Missoula averaged 22 percent which is 10 percent below normal. This

pattern was characteristic of most of the district west of the Continental Divide. All stations reported average maximum temperatures above the July normal and rainfall much below normal. For example, Lewiston's average maximum temperature was 2.6 degrees above normal and their rainfall only 0.03 inches compared to a normal of 0.43 inches. The 1600 PST relative humidity at Lewiston averaged 18 percent compared to a normal of 24 percent for July. Spokane's maximum temperature was only 0.6 degree above normal but they had only 0.06 inches of rain compared to a normal of 0.38 inches. The 1600 PST relative humidity at Spokane averaged 20 percent compared to a normal of 25 percent.

Many records for high temperature and deficient rainfall were set in August of 1967 from the Continental Divide westward in the Missoula Fire Weather District and along the entire Pacific Coast. It was the hottest and driest August on record at Missoula with 20 days of maximum temperatures of 90 degrees or higher and an average daily maximum temperature of 91.8 degrees. No measurable rain fell at Missoula during the month. This has occurred only twice previously, in 1889 and 1917. The 1700 MST relative humidity at Missoula averaged 15 percent compared to a 30 year normal of 32 percent. Kalispell recorded 17 days with 90 degree maximums or higher and only 0.01 inches of rain during August, which made it the second driest on record. The 1700 MST relative humidity at Kalispell averaged 19 percent during August 1967. It was the second hottest August since records began in 1901 at Lewiston, Idaho. Lewiston recorded 11 consecutive days with maximum temperatures of 100 degrees or higher from the 10th through the 20th, equaling a record set in July 1938. No measurable rain was recorded at Lewiston during August 1967. The minimum relative humidity at Colville averaged 15.3 percent for August 1967 compared to a long term average of 27.9 percent and a previous August record of 20.4 percent set in 1958.

The abnormal hot and dry weather continued from August into September. If rain and cool air had not moved into the district on the last 2 days of the month, many previous monthly records for September would have been shattered. As it was, Missoula recorded an average high temperature above 80 degrees for only the second time since 1892 with an average daily high of 81.1 degrees. A 99 degree reading on the 1st was the warmest ever recorded at Missoula in the month of September and 88 degrees on the 28th was the warmest ever recorded so late in the fall season. On the last 2 days of the month 0.31 inches of rain fell at Missoula, but total rainfall for the entire month was only 0.49 inches or 0.53 inches below normal. A high temperature record for so late in the season was also set at Spokane with 89 degrees on the 28th, and Kalispell set a new September high temperature record with 99 degrees on the 1st.

The semipermanent high pressure ridge over the western part of the district during August and September resulted in frequent periods of subsidence. The contrast compared to normal conditions was particularly marked over the higher terrain where temperature and humidity recovery

was very poor at night. For instance, examination of the hygrothermograph trace from the Gisborne Mountain Lookout 10 miles south of Priest Lake on the Kaniksu National Forest for the period August 14-20 shows that the temperature ranged from afternoon highs in the upper 80's to nighttime lows in the high 60's during this week. The relative humidity ranged from minimums of 12 to 15 percent during the afternoons to maximums of 18 to 25 percent at night. The 1600 PST humidity at Gisborne Lookout averaged 23.3 percent during August 1967 which is about 20 percent lower than the average for the last 20 years. Low humidities of 12 percent recorded on August 15, 16, and 17 were the lowest recorded in the 20 years of record examined. The previous low was 15 percent in July of 1960. The average 1600 PST temperature of 75.8 degrees for August 1967 at Gisborne Lookout was the warmest during the last 20 years and 12 degrees higher than average. Very few September records are available from lookout stations for past years for comparative purposes, but the low humidities and high temperatures that continued through September over the low country indicate that the weather continued much hotter and drier than normal over most of the higher terrain through September 28.

WEATHER SUMMARY
East of Continental Divide
Billings Fire Weather District

Preseason Weather - November to June

November and December temperatures were near normal overall, but there was considerable day to day variation from well below normal to several degrees above normal, as weather systems moved rapidly in a strong westerly flow. The first major snowfall came during the second week of November. Snow cover at lower elevations was intermittent through the winter; snow depth never exceeded 8 inches at the Billings Airport.

January and February were unusually mild, with temperatures east of the Divide averaging about 8 degrees above normal. No heavy snows occurred. March reversed the mild weather pattern. Temperatures were well below normal at first, averaging 2-1/2 degrees below normal for the month at Billings. Precipitation was 50 percent above normal. An 8-inch snowfall during the second week was the heaviest since November.

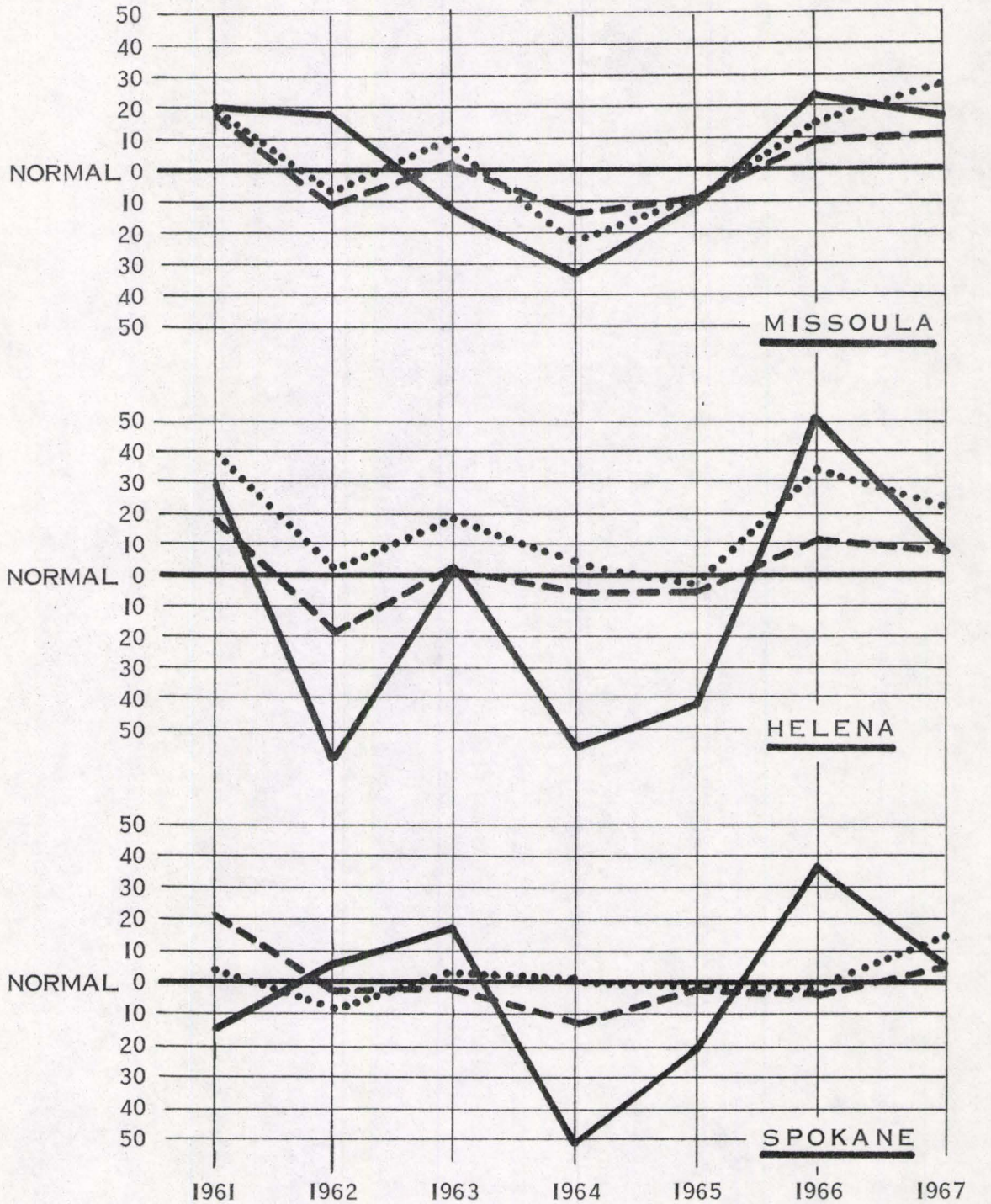
The cold-wet weather pattern that started in early March continued through the remainder of the spring. Temperatures during April, May, and June were 4 to 6 degrees below normal. A major blizzard at the end of April brought 1 to 2 feet of snow to most of Montana east of the Rockies and piled up 8 to 10 foot drifts in the previously dry Montana-North Dakota-South Dakota "Tripoint." May was near normal in precipitation in most areas, but by the end of the month, an extremely dry area was beginning to develop north of the Fort Peck Reservoir. June rains were unusually heavy in southern Montana, 100 percent above normal at Billings, but drought continued north of the Missouri.

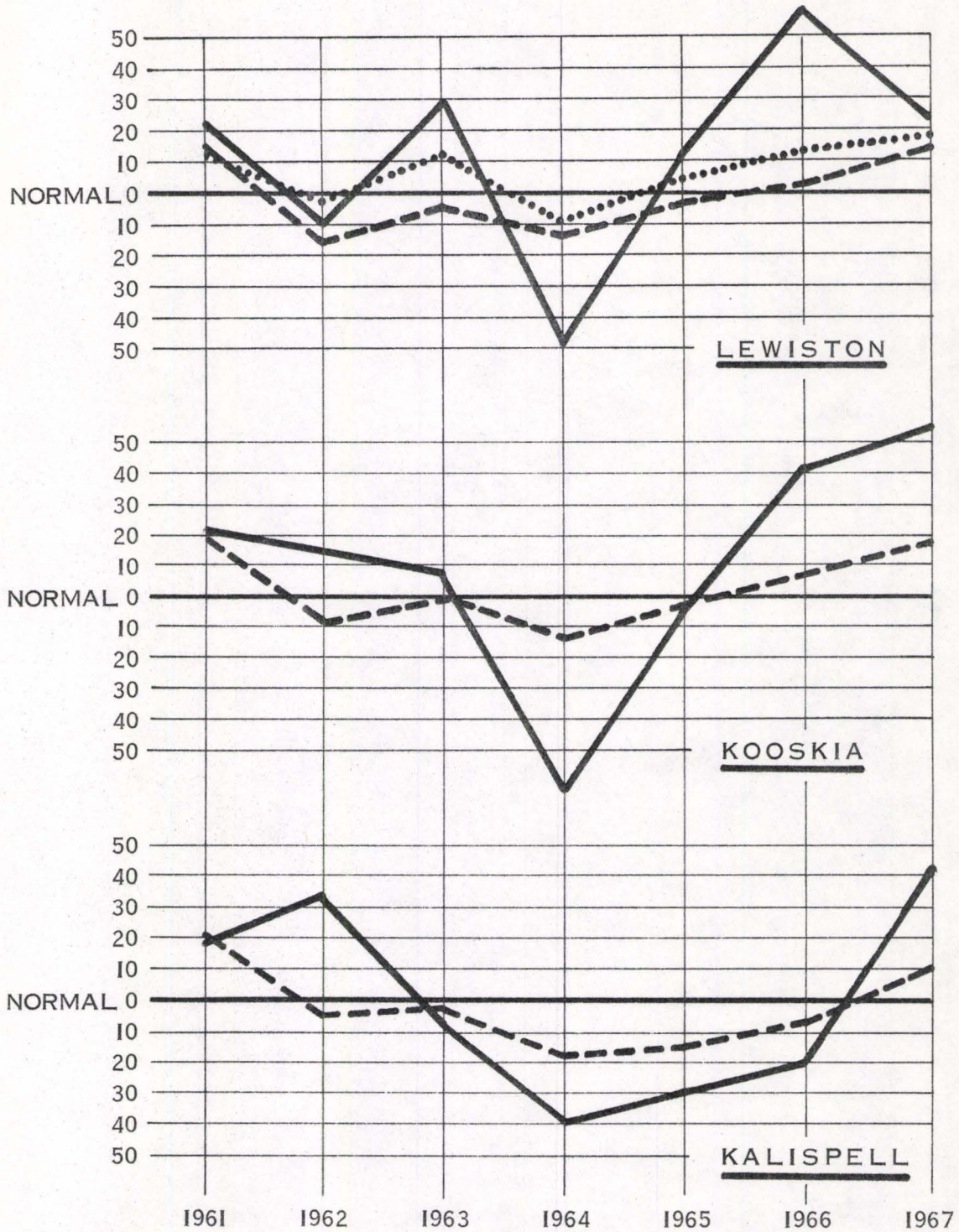
The Fire Season - July and August

Significant rains ended during the forth week of June and did not begin again until the last of August. However, summer temperatures slightly below normal, and residual soil moisture from the heavy spring rains south of the Missouri helped prevent any major fire outbreaks. The most serious fires in the southern half of the district occurred during late August on the Northern Cheyenne Reservation. North of the Missouri, the dry spring and summer weather enhanced fire danger, but also reduced lightning frequency. Most of the important range fires came with one outbreak of dry thunderstorms on September 2.

The Late Season - September and October

Warm weather and considerable thunderstorm activity characterized the first 10 days of September and brought some of the most serious fire threats of the season. A general heavy rain effecting nearly all of east of the Divide ended the fire season by midmonth. It was the first significant precipitation in northeastern Montana since April. October was near normal in both temperature and precipitation.


50
40
30
20
10
NORMAL 0
10
20
30
40
50
MISSOULA
HELENA
SPOKANE
1961
1962
1963
1964
1965
1966
1967
PRECIPITATION, PERCENT DEFICIENCY
MAXIMUM TEMPERATURE, DEPARTURE, DEGREES
RELATIVE HUMIDITY, DEFICIENCY, PERCENT 1700M (1600P)
MAY – AUGUST (INCLUSIVE)



PRECIPITATION, PERCENT DEFICIENCY

MAXIMUM TEMPERATURE, DEPARTURE, DEGREES

RELATIVE HUMIDITY, DEFICIENCY, PERCENT 1700M (1600P)

MAY — AUGUST (INCLUSIVE)

AREA BURNED

One thousand eight hundred and fifty-one fires burned a total of 83,498 acres within the Region's protection boundaries in 1967. This included 60,387 acres of National Forest land and 23,111 acres of other lands. This is 58,249 acres more than the past 5-year average of 25,249 acres burned. The Regional par is 2,000 acres. Lightning fires accounted for 68,334 acres and man-caused fires 15,164 acres.

The Trapper Peak and Sundance fires on the Kaniksu, both started by lightning, accounted for 64 percent of the burned acreage within the protection boundary. These were the Region's two largest fires. Both started outside the Forest's protection boundary and traveled onto the Forest.

Acreages burned on these two fires are listed below:

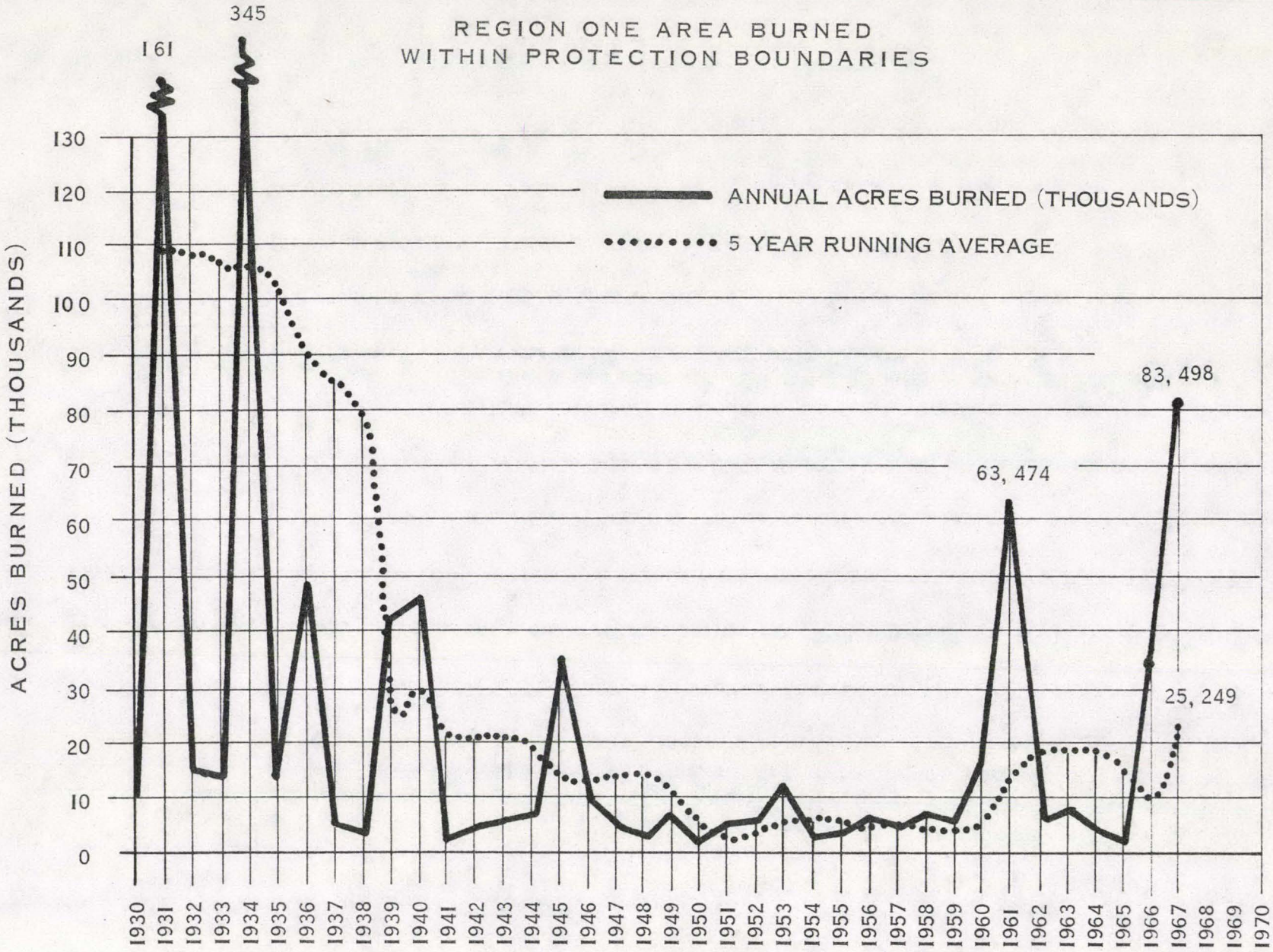
Fire Name	Acres Burned Inside Protection Boundary		Acres Burned Outside Protection Boundary		Total Acres Burned
	NF	Other	NF	Other	
Trapper Peak	12,150	560	0	3,890	16,600
Sundance	19,912	20,570	0	15,428	55,910
Grand Total	32,062	21,130	0	19,318	72,510

ACREAGE BURNED 1967

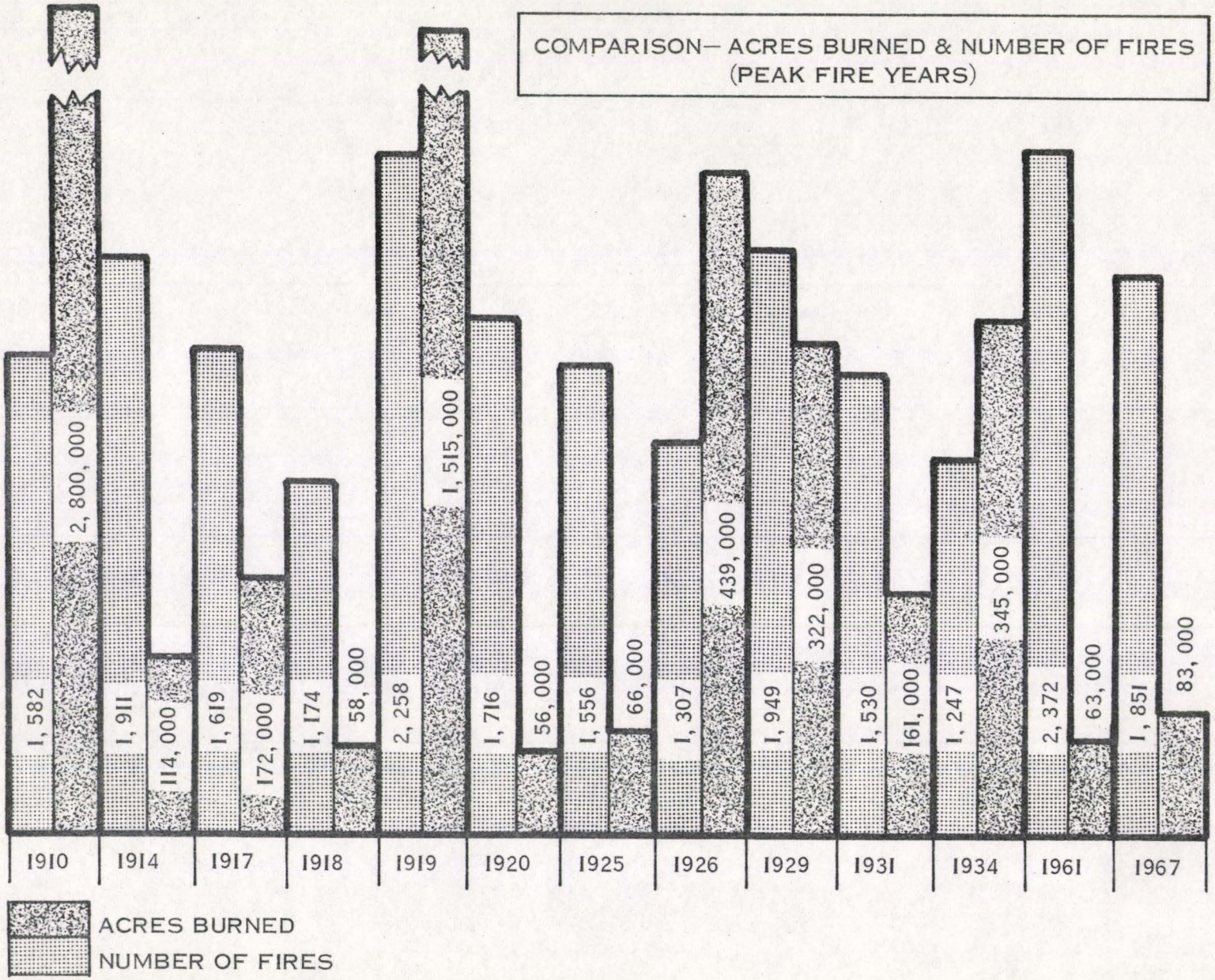
MAN-CAUSED INSIDE		MAN-CAUSED OUTSIDE		TOTAL MAN-CAUSED	LIGHTNING-CAUSED INSIDE		LIGHTNING-CAUSED OUTSIDE		TOTAL LIGHTNING-CAUSED	GRAND TOTAL
NF	Other	NF	Other		NF	Other	NF	Other		
14,218	946	10	372	15,546	46,169	22,165	0	18,378	86,712	102,258
15,164		382			68,334		18,378			

ACREAGE BURNED 1966

2,717	505	14	3,757	6,993	30,983	1,139	0	262	32,384	39,377
3,222		3,771			32,122		262			


REGION ONE AREA BURNED
WITHIN PROTECTION BOUNDARIES
ACRES BURNED (THOUSANDS)
ANNUAL ACRES BURNED (THOUSANDS)
5 YEAR RUNNING AVERAGE
161
345
63, 474
83, 498
25, 249
0
10
20
30
40
50
60
70
80
90
100
110
120
130
1930
1931
1932
1933
1934
1935
1936
1937
1938
1939
1940
1941
1942
1943
1944
1945
1946
1947
1948
1949
1950
1951
1952
1953
1954
1955
1956
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970

RELATIONSHIP
BURNED AREA TO CAUSE
FIRES
BURNED AREA
PERCENT
0
10
20
30
40
50
60
70
80
90
100
1963
LIGHTNING
MAN—CAUSED
1964
LIGHTNING
MAN—CAUSED
1965
LIGHTNING
MAN—CAUSED
1966
LIGHTNING
MAN—CAUSED
1967
LIGHTNING
MAN—CAUSED


COMPARISON— ACRES BURNED & NUMBER OF FIRES
(PEAK FIRE YEARS)
1,582
2,800,000
1,911
114,000
1,619
172,000
1,174
58,000
2,258
1,515,000
1,716
56,000
1,556
66,000
1,307
439,000
1,949
322,000
1,530
161,000
1,247
345,000
2,372
63,000
1,851
83,000
1910
1914
1917
1918
1919
1920
1925
1926
1929
1931
1934
1961
1967
ACRES BURNED
NUMBER OF FIRES

LIGHTNING FIRE OCCURRENCE

Region 1 had 1,426 lightning fires during the 1967 season. This was 354 more than the past 5-year average of 1,072 fires per year. This also was the fourth highest number of lightning fires since records were started in 1910.

There were 9 lightning-free days between July 5 and 31, and 16 lightning-free days during the month of August in the 10 western Forests.

There were six distinct periods of lightning activity that resulted in substantial numbers of lightning fires. These periods were:

July 13 - 16	212 fires
July 31	49 fires
August 5 - 7	165 fires
August 12 - 14	209 fires
August 21 - 22	172 fires
September 6 - 11	183 fires

Days on which lightning fires exceeded 100 new starts were:

July 13	118 fires
August 12	160 fires
August 21	161 fires

The Nezperce Forest was hardest hit with 366 lightning fires followed by the Bitterroot with 185, the Clearwater and Kootenai with 138 each, the Kaniksu with 114, and the Lolo with 107. No other Forest exceeded 100 lightning fires.

The unusual persistence of a high pressure ridge aloft over the western Forests during late July, August, and the first part of September tended to divert the normal moist Pacific storms to the north and to the south. The resulting weather pattern, when weak lows were able to penetrate the area, was very dry lightning storms in which nearly every strike started a fire.

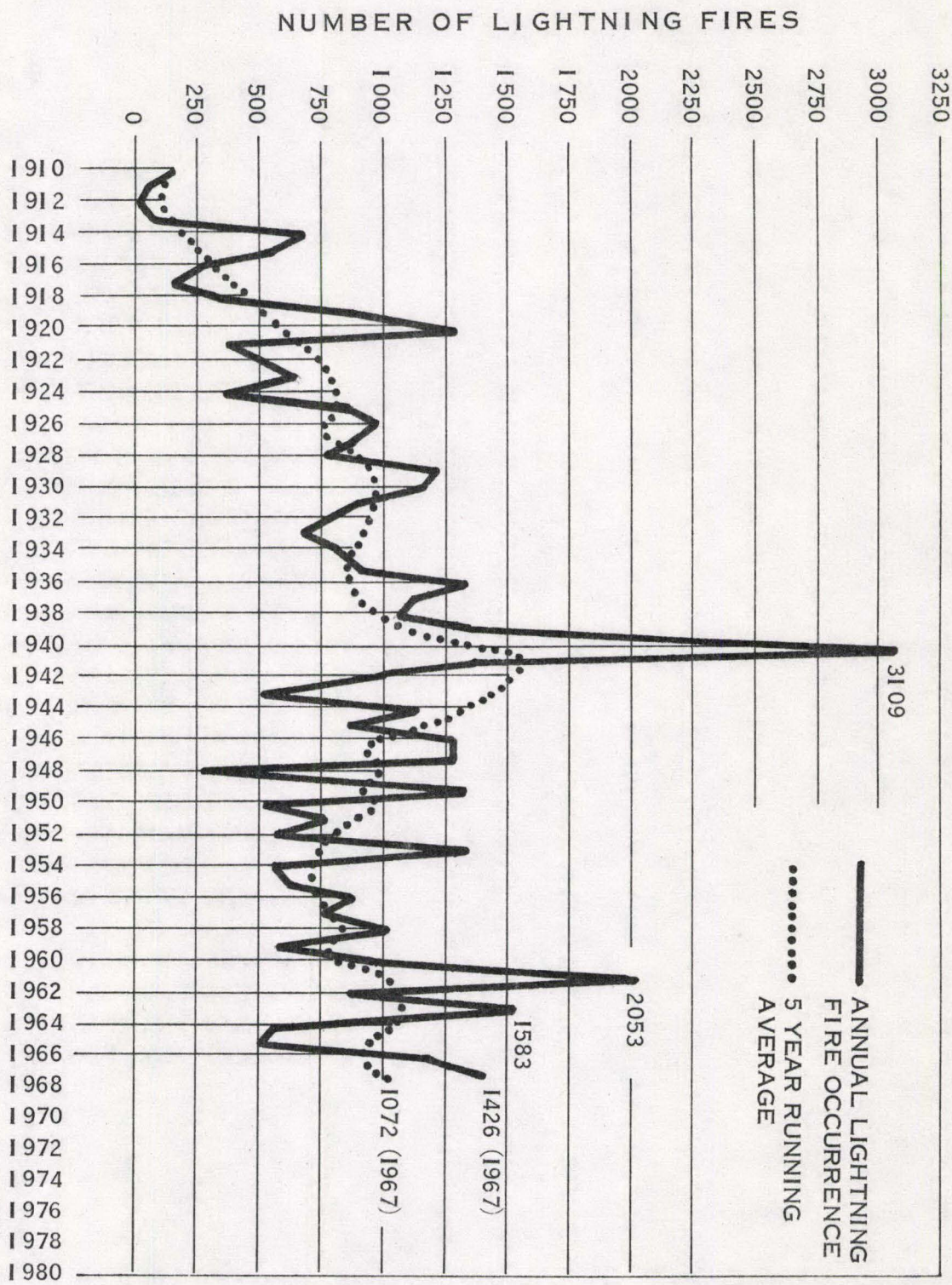
Comparison of lightning occurrence for the past 5 years - western Forests.*

Number of days on which lightning occurred, July 5 through August 31.

July	1963	1964	1965	1966	1967
On one Forest	2	2	1	1	4
On more than one Forest	15	12	24	9	13
On all Forests	1	2	2	2	1

August	1963	1964	1965	1966	1967
On one Forest	2	4	1	2	4
On more than one Forest	23	10	24	14	11
On all Forests	3	2	1	1	0
Total number of lightning days	46	32	53	29	33

* Western Forests: Bitterroot, Clearwater, Coeur d'Alene, Colville, Flathead, Kaniksu, Kootenai, Lolo, Nezperce, St. Joe.


REGION ONE LIGHTNING FIRES
NUMBER OF LIGHTNING FIRES
3250
3000
2750
2500
2250
2000
1750
1500
1250
1000
750
500
250
0
1910
1912
1914
1916
1918
1920
1922
1924
1926
1928
1930
1932
1934
1936
1938
1940
1942
1944
1946
1948
1950
1952
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
3109
2053
1583
1426 (1967)
1072 (1967)
ANNUAL LIGHTNING FIRE OCCURRENCE
5 YEAR RUNNING AVERAGE

MAN-CAUSED FIRES

A total of 425 man-caused fires were suppressed during 1967. This represents 23 percent of the total fires and exceeds the Region's par of 203 by 222. This is the highest number of man-caused fires since 1953. Thirty-nine of these fires were class C or larger.

Equipment fires were the greatest single cause and smoker fires the second. Of the 160 equipment fires, 117 were attributed to railroads.

Estimated damage and suppression costs for the 425 man-caused fires amounts to $2,643,800. Approximately $2 million of this total was expended in fire suppression.

Following is a tabulation indicating suppression and damage costs for the more significant fire causes.

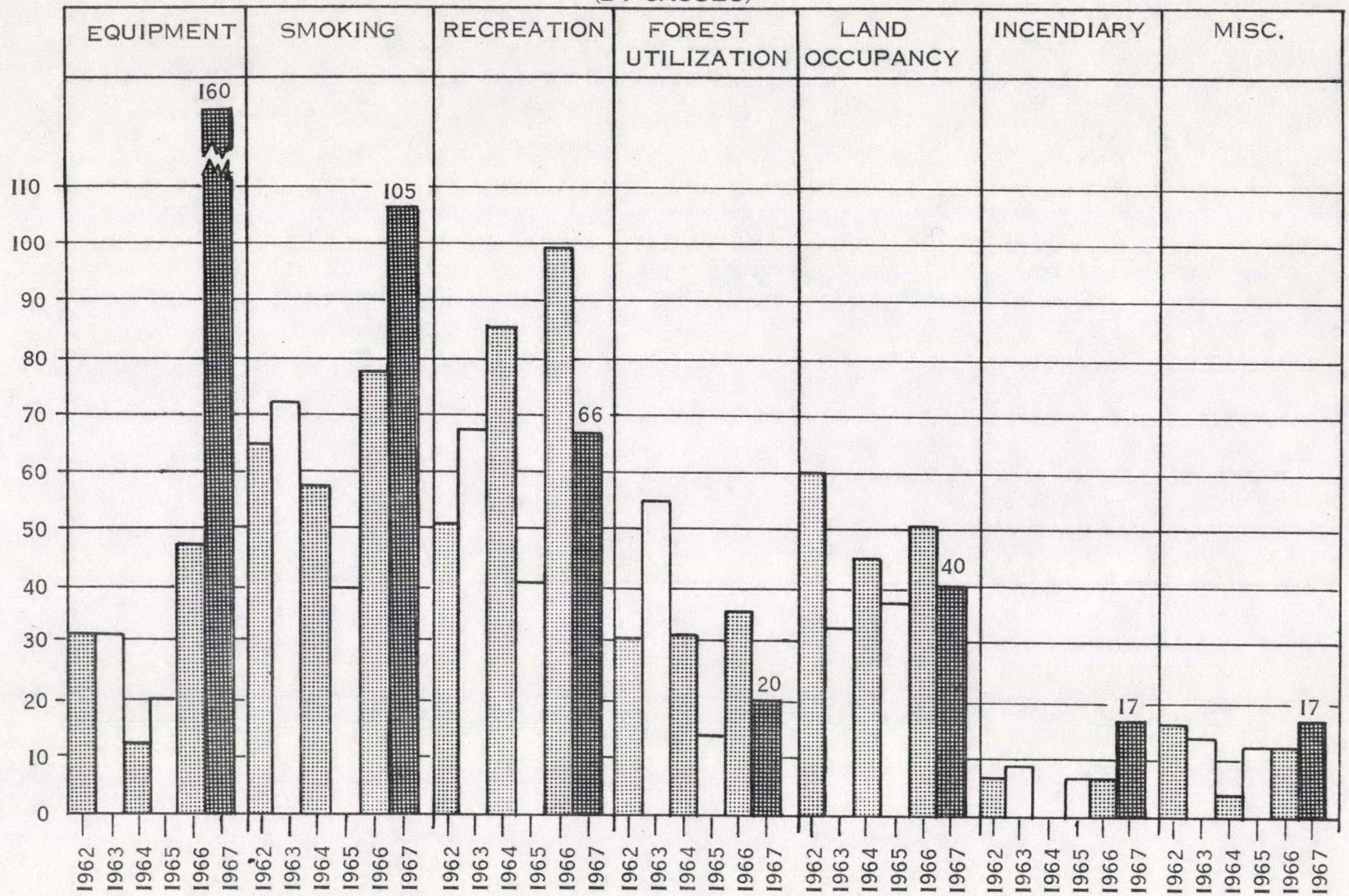
Fire Cause	No. Fires	Percent of Total	Suppression and Damage Costs	Percent of Total
Railroad	118	28	$ 67,920	2
Chainsaw	13)		328,200)	
Other industrial, etc.	)60 47)	14	)1,027,880 699,680)	39
Smoker fires	105	25	757,520	29
Recreation campfires	66	15	186,120	7
All other causes	76	18	604,360	23

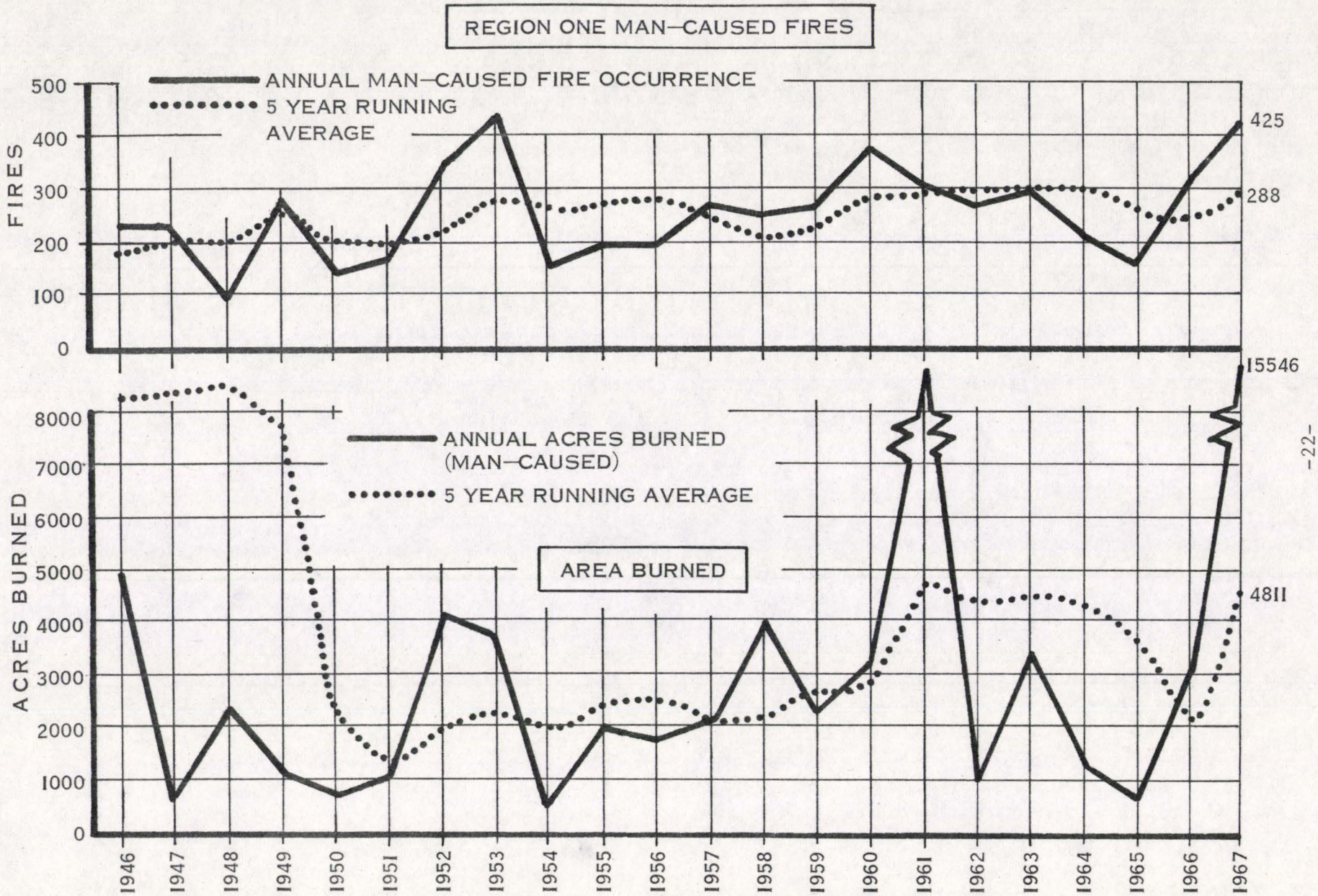
Although fires resulting from contractor, permittee and industrial operations, excluding railroad fires, amounted to but 14 percent of these fires, they represent 39 percent of the total costs. This category is under the direct administrative control of the Forest Service, indicating a strong need for accelerated prevention programs. Analysis of last year's man-caused fires substantiates this conclusion.

Analysis of the 5100-29 reports for "class of people" responsible for starting fires indicates that 310 fires, or 73 percent of the 425 fires, were caused by people and/or activities resident to the Forests.

Fourteen of the Region's sixteen Forests affected smoking, campfire and entrance closures during this year's fire season. The two Forests not requesting Regulation T-1 closures were the Custer and Gallatin.

MAN–CAUSED FIRES
(BY CAUSES)




REGION ONE MAN–CAUSED FIRES
ANNUAL MAN–CAUSED FIRE OCCURRENCE
5 YEAR RUNNING AVERAGE
FIRES
500
400
300
200
100
0
425
288
15546
4811
ANNUAL ACRES BURNED (MAN–CAUSED)
5 YEAR RUNNING AVERAGE
AREA BURNED
ACRES BURNED
8000
7000
6000
5000
4000
3000
2000
1000
0
1946
1947
1948
1949
1950
1951
1952
1953
1954
1955
1956
1957
1958
1959
1960
1961
1962
1963
1964
1965
1966
1967

The Regional Coordinator's organization at the Aerial Fire Depot was staffed to cope with the fire emergency as shown in the following organization chart. This organization was in active operation from August 15 to September 13. All units were geared for 24-hour operation.

Women clerks and stenographers were used at the offices to place telephone calls, answer and screen incoming calls, take notes, maintain current logs and records, and monitor the teletype. The utilization of the secretarial skills of these women proved to be an invaluable aid to the Regional Coordinator and his staff.

All organized crews and overhead, both in and out-of-Region, were recruited through the Regional Coordinator's office. File card records were set up to keep track of fire assignments and other information needed for arranging transportation and payment. Transportation by air was arranged through the air operations office. Other transportation was arranged through the Missoula transportation office.

Overhead orders were anticipated in advance of firm orders from the field. Generally, orders from other Regions were by overhead teams. All out-of-Region overhead were assigned to going fires within one or two days after arrival.

Manpower orders for organized crews were also anticipated in advance of firm orders based on the current fire situation. A staging area was set up at Fort Missoula to handle 400 men. The plan was to keep a pool of fresh crews on hand in order to speed up the filling of orders. Invariably, due to the continual flow of orders for crews, firm orders were received for the crews before they had time to reach the staging area.

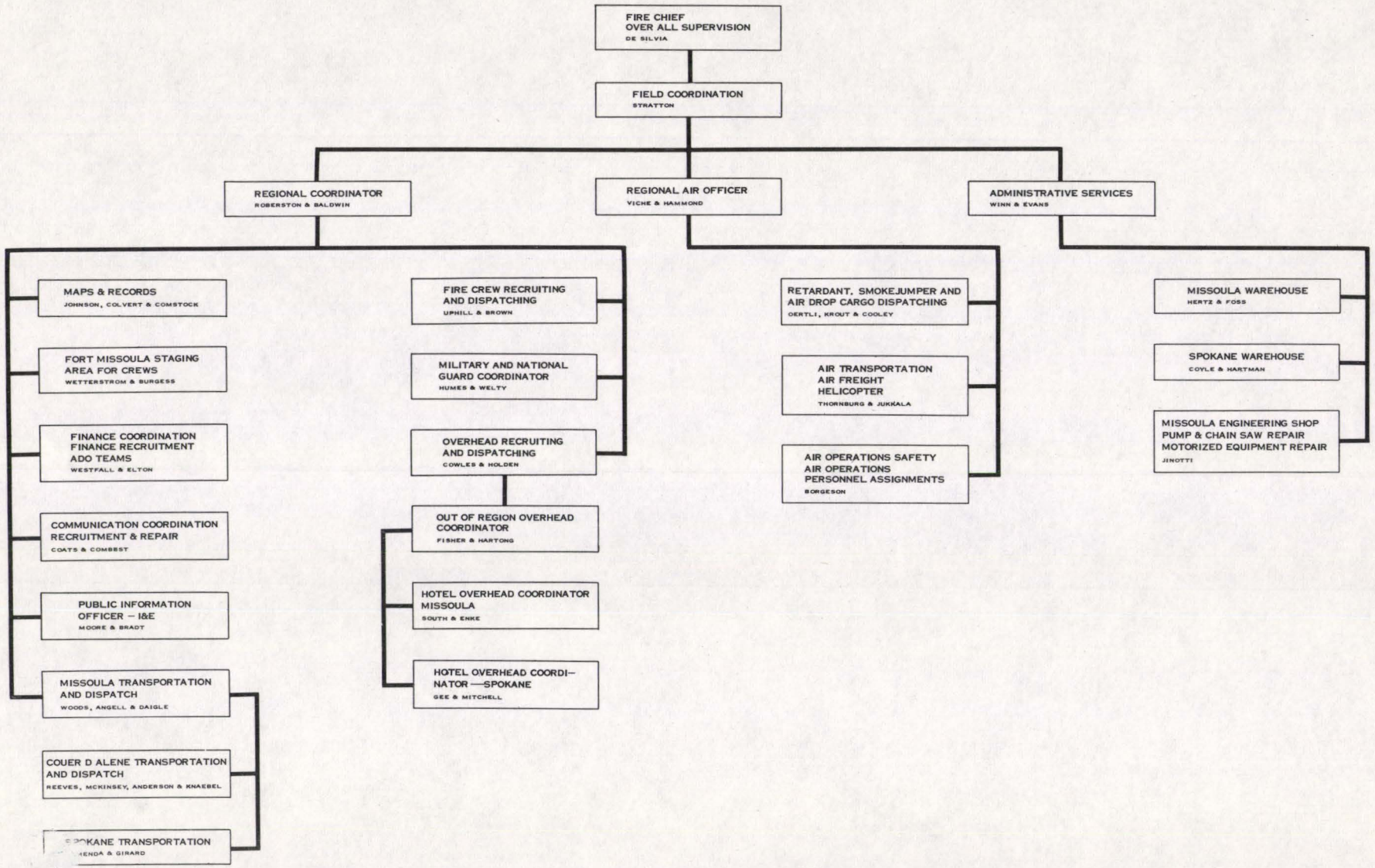
However, the staging area served a very useful purpose. Many crews were held overnight here while suitable transportation was arranged. It was also used as a rest area before crew reassignment.

Close coordination was maintained between the Regional Coordinator, the Regional Air Officer, and Administrative Services. Current information and direction was furnished by the fire chief and field coordinator concerning cooperation, policy, and the setting of priorities.

REGION ONE FIRE ORGANIZATION

AT THE PEAK OF THE 1967 FIRE SEASON

MISSOULA, MONTANA



PROJECT FIRES

Most of the publicity and effort centered around a few fires this season. While these fires were demanding, there were hundreds of other fires that required logistical support during the same critical period.

The project fires in Region 1 are listed below. (For the purpose of this report, a "project fire" is defined as any extra-period fire with maximum manpower at any one time of 25 or more men. Date of mopup is the day on which the total manpower was reduced to less than 25 men.)

Name	Size (acres)	Peak manpower	Date of origin	Date of control	Date of mopup
		Zone A			
Clearwater					
Hot Springs Rdg.	310	331	8/12	8/17	8/25
Crooked Fork #2	80	100	8/12	8/15	8/20
Crooked Fork #1	144	290	8/12	8/17	8/22
Sneak Point*	1,240	366	8/18	8/25	9/8
Can Creek	127	145	8/20	8/25	8/31
Cliff Creek	812	366	8/20	8/26	9/6
Ice Creek #1	55	45	8/20	8/24	8/28
Salmon Ridge	168	210	8/20	8/25	9/4
Flea Ridge	60	75	8/20	8/26	8/29
Ice Creek #2	25	66	8/20	8/24	8/26
Old Man Creek	30	39	8/20	8/24	8/24
Chimney Creek	16	50	8/20	8/26	8/26
Tama Creek	6	72	9/5	9/7	9/7
Pete King	20	110	9/5	9/7	9/9
Coeur d'Alene					
Cabin Creek*	99	188	8/1	8/3	8/7
Colville					
Edds Mountain	53	77	7/13	7/14	7/18
Dry Mountain	490	325	8/12	8/15	8/26
Kaniksu					
Cedar Hill*	124	96	7/28	7/29	8/2
Plume Creek	1,203	600	8/6	8/27	9/11

*Indicates man-caused fires.

Name	Size (acres)	Peak manpower	Date of origin	Date of control	Date of mopup
Kaniksu (contd.)					
Upper Hughes	3	61	8/11	8/13	8/16
Black Mountain	76	179	8/11	8/15	8/22
Kaniksu Mountain 1/	795	500	8/11	8/24	9/12
Trapper Peak 2/	16,600	2,036	8/11	9/10	9/30
Sundance 3/	55,910	2,261	8/11	9/10	10/4
Bottle Point	4	30	8/20	8/23	8/24
Davils Gap	42	139	8/20	8/23	8/30
Caribou Creek* 4/	50	225	9/3	9/5	9/10
Nezperce					
Kelly Mountain	40	45	7/31	8/1	8/3
Brushy Fork	3,000	52	8/12	9/8	9/20
Anchor Creek	8	39	8/13	8/14	8/15
Fiddle Creek*	890	380	8/18	8/21	9/4
Allison Creek	750	200	8/20	8/23	9/4
Box Car Mountain	1,275	300	8/20	8/27	9/12
Hanover Mountain	2,450	470	8/20	9/1	9/26
Quartzite Butte	620	124	8/20	8/29	9/12
Hiltsley Creek	66	45	8/20	8/22	9/1
N. Fk. Slate Cr.	16	34	8/20	8/22	8/25
Isaac Creek	20	25	8/20	8/23	8/23
Cotter Bar*	7,180	490	8/22	8/27	9/13
Rainey Creek	2	26	9/1	9/2	9/3
Leggitt Creek*	92	29	9/20	9/27	10/1
Donkey Creek #2*	195	26	9/20	9/27	10/1
St. Joe					
Fawn Lake Trail	20	41	8/20	8/23	8/24
Shoepack*	1,034	575	9/24	9/27	10/2

1/ Kaniksu Mountain fire burned 95 acres in Canada.
2/ Origin on Priest Lake Timber Protective Association lands. In addition to control of fire in National Forest protection area, also controlled part of fire on PLTPA lands.
3/ Origin on PLTPA lands. Forest Service requested to assume command of fire on September 1, 1967.
4/ Origin on PLTPA lands. Forest Service requested to assume command of fire on September 3, 1967.

*Indicates man-caused fires.

Name	Size (acres)	Peak manpower	Date of origin	Date of control	Date of mopup
		Zone B			
Bitterroot					
Boulder Lake	13	25	8/12	8/13	8/14
Bass Creek*	45	165	8/17	8/19	8/22
Flathead					
Canyon Creek*	82	230	7/30	8/2	8/6
Great Northern Flats	124	200	8/11	8/24	9/15
Miller Creek*	806	670	8/23	8/26	9/2
Baldy Mountain	48	80	9/5	9/6	9/8
Gorge Creek*	815	232	9/24	9/29	10/1
Kootenai					
Lost Fork*	25	55	7/5	7/6	7/15
Pete Creek	14	32	7/13	7/14	7/17
Scenery Mountain	12	65	8/5	8/6	8/8
Sky Lakes	640	240	8/6	8/23	9/4
Beulah*	4	35	8/7	8/13	8/15
Cross Mountain	270	350	8/11	8/16	9/18
O'Brien Mountain	60	168	8/11	8/15	8/26
McGregor Ridge	11	48	8/12	8/13	8/16
Copeland Creek	135	242	8/14	8/16	9/2
Virginia Hill*	12	60	8/26	8/27	8/31
Lolo					
Milepost 44.25*	11	28	8/19	8/20	8/20
Miller Creek	15	74	8/20	8/21	8/22
Monture*	420	543	8/23	8/25	9/11
Fish Lake	20	58	9/8	9/9	9/12
Indian Gulch*	96	144	9/25	9/26	9/29
		Zone C			
Custer					
Sheep Creek	30	45	7/31	8/3	8/5
Deerlodge					
Elbow Lake	60	173	8/31	9/3	9/8
Pikes Peak*	15	130	9/19	9/20	9/27

*Indicates man-caused fires.

Name	Size (acres)	Peak manpower	Date of origin	Date of control	Date of mopup
Helena					
Landers Fork*	310	500	8/23	8/26	9/10
Lewis & Clark					
Miller Gulch*	40	140	8/19	8/20	9/10

*Indicates man-caused fires.

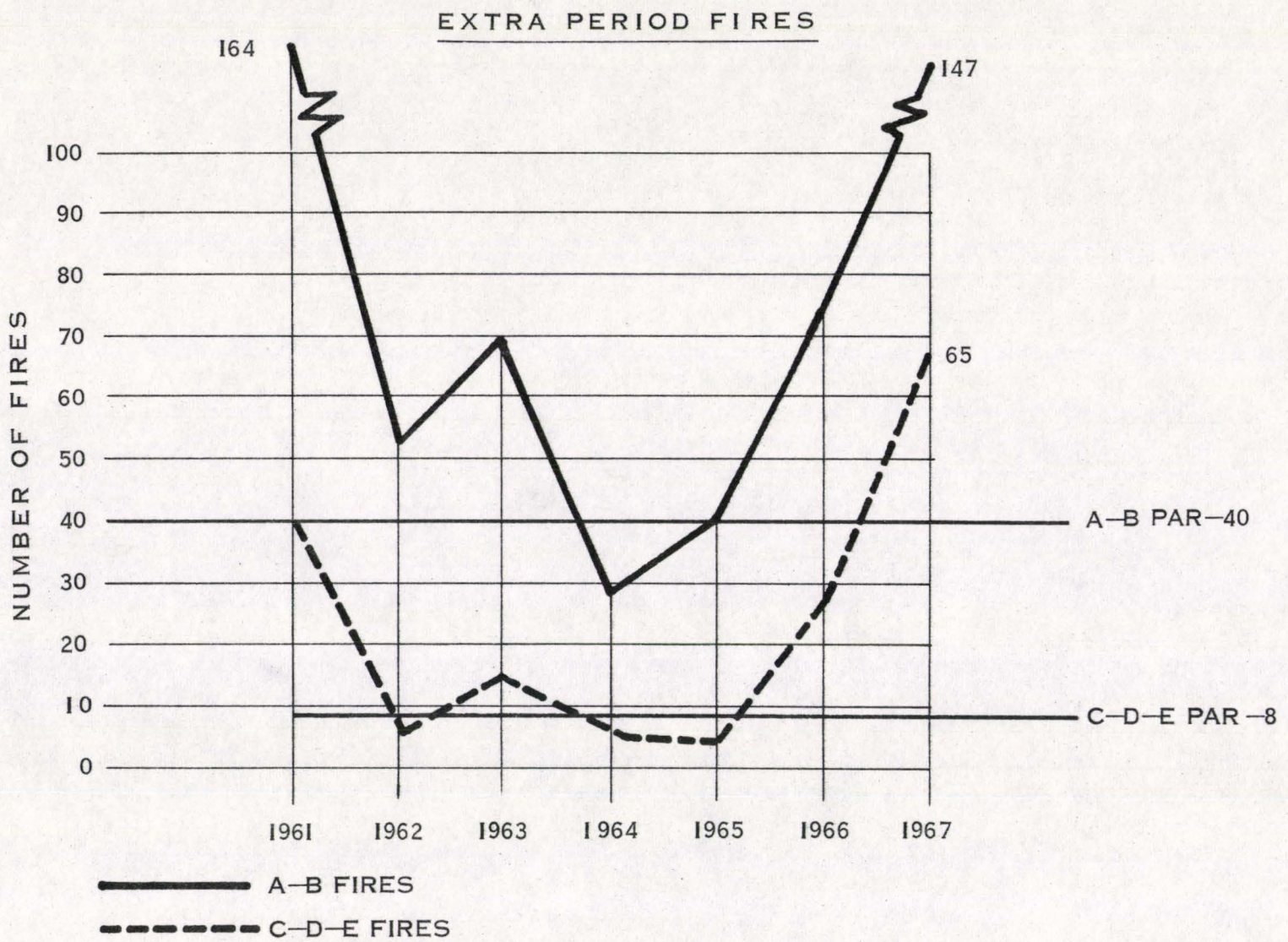
EXTRA-PERIOD FIRES

There were 212 extra-period fires in Region 1 in 1967. The 5-year average is 94 fires and the Regional par is 48 fires.

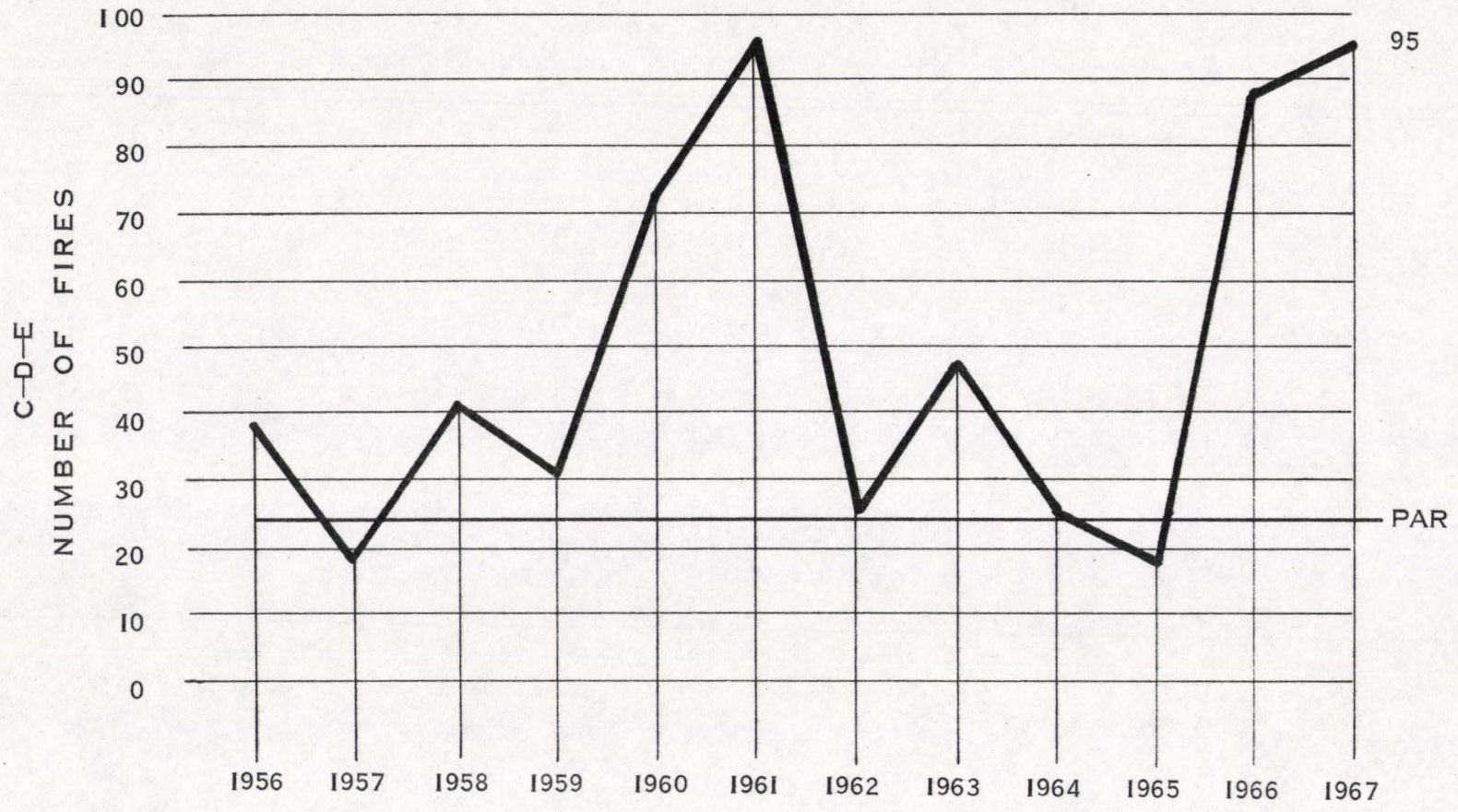
The principal reasons for the unusually high number of extra-period fires were the extreme severity of the fire season, the high incidence of multiple starts, the prior commitment of District manpower and jumpers, and the use of smokechasers unfamiliar with the District. At times, fires had to be manned on a priority basis despite the fact that fairly large numbers of smokechasers and jumpers were detailed from other Forests, Regions, and Agencies.

Causes for this number of extra-period fires are classified below.

CAUSES	CLASS A & B	CLASS C, D & E	TOTAL
Travel Time	37	5	42
Search Time	36	0	36
Failure to find fire by initial attack crew	1	0	1
Improper location	7	1	8
Pre and post season	1	0	1
Insufficient manpower	37	25	62
Unpredicted or adverse weather	10	30	40
Other	18	4	22
	147	65	212


EXTRA PERIOD FIRES
164
147
65
100
90
80
70
60
50
40
30
20
10
0
NUMBER OF FIRES
A—B PAR—40
C—D—E PAR—8
1961
1962
1963
1964
1965
1966
1967
A—B FIRES
C—D—E FIRES

CLASS C–D–E FIRES (PAR 24)



OVERHEAD AND SUPPORT

There was a mass movement of overhead from both within and outside the Region to assist in the management of fires. All Forests and Regions responded readily with assistance when called upon. Nearly all overhead from outside the Region were flown in and, generally, arrived within hours after the request was made. An assignment desk was set up in hotels in Missoula and Spokane to facilitate the movement of people to the place of need and later to expedite their return home. Telephone circuits were installed at these desks for dispatching by the Regional Coordinator.

Overhead from within the Region moved by small airplanes, cars, trucks, and busses. All Forests extended themselves to provide the help requested. Many Forests were left with a skeleton force with which to carry on their normal daily operations.

REGION 1 OVERHEAD AND SUPPORT ASSIGNMENTS

	No. of Men	Man-Hours Worked
National Forests (Assigned off-Forest)	1,073	156,800
Research Personnel	81	8,500
Regional Office and MEDC	391	71,200
Total	1,545	236,500

OUT-OF-REGION OVERHEAD AND SUPPORT

Region	2	3	4	5	6	8	9	10	Total
No. of Men	111	37	111	390	29	49	77	12	816

In addition to the overhead assignments for project fires, trained smokechasers were dispatched to the Nezperce Forest on two different occasions. On August 21, 60 smokechasers were flown to the Nezperce; and on September 6, 24 smokechasers were again flown to the Nezperce to provide backup following a lightning storm. Rapid mobilization, transportation, and use of these trained people prevented additional project fires.

OVERHEAD ASSIGNED TO OTHER REGIONS

No Region 1 people were detailed to other Regions for overhead assignments during 1967.

ORGANIZED CREWS

Every effort was made to secure organized crews rather than employ individual pickup firefighters for the many fires. Even after the source of trained crews became depleted, an attempt was made to hire crews with some degree of organization and supervision. These, of course, were not always first class firefighters but there was some degree of unity in the crews.

Several of the Forests which were not engaged in their own suppression problems served as recruitment centers for the employment of crews. The Lewis & Clark, Custer, and Deerlodge Forests did the largest share of recruiting for other Forests within the Region.

ORGANIZED CREWS RECRUITED

Within Region

Montana Indian crews	154
Idaho and Washington Indian crews	4
Pickup crews (miners, loggers, laborers, etc.)	122
	280

Out-of-Region

Southwest Indian crews	58
Central Idaho Indian crews	13
Region 2 Indian crews	36
Alaska crews	5
Spanish-American crews	48
BLM (special fire crews)	4
National Forest (TSI, etc.)	5
Miscellaneous crews	5
	174

Some of the crews listed above were dispatched two or three times during the season. They may have been returned home after control of a fire or for a period of rest and then again employed to go to another fire.

In addition to the crews listed above, there were 21 Job Corps crews dispatched to 17 fires. These crews worked principally on mopup and in the Service function.

INTERREGIONAL SUPPRESSION CREW SUMMARY 1967

This year four additional specialized fire crews were trained in Region 1. With the loss of the backup crews formerly provided by the blister rust organization, it was necessary to strengthen the fire control organization with four additional IR crews, bringing the total to seven in the Region.

After a rather slow beginning in June and July, these crews were used steadily with the start of the major fire activity in August until the second week in September.

Evaluation reports of IR crews consistently rate them above all other ground-attack crews and give credit to their ability to lead, to attack independently, to respond to instructions, and to provide that additional effort frequently needed. They responded quickly and willingly to the demands made upon them this season.

In addition to the Region 1 IR crews, six out-of-Region IR crews were used with the same good reports of professional-type work wherever assigned.

Training, leadership, and pride in job paid off many times during the season with these crews.

Summary of the fire dispatches of the Region 1 IR crews:

FIRE NAME	REGION	FOREST	DATES DISPATCHED	DATES RETURNED	DAYS AWAY FROM BASE
Bitterroot Crew					
North Sams	6	Olympic	7/2	7/6	5
Lost Trail	1	Bitterroot	7/24	7/26	2
Canyon Creek	1	Flathead	7/30	8/3	4
Claremont	1	Bitterroot	8/6	8/6	1
Reynolds Creek	4	Salmon	8/8	8/11	4
Shields Creek	1	Bitterroot	8/11	8/12	1
Crooked Fork #1	1	Clearwater	8/13	8/16	4
Bass Creek	1	Bitterroot	8/17	8/20	4
Box Car Mountain	1	Nezperce	8/23	8/27	5
Sundance	1	Kaniksu	8/31	9/8	9
					39
Coeur d'Alene Crew					
Picnic Creek	1	Coeur d'Alene	7/25	7/28	3
Cedar Hill	1	Kaniksu	7/28	8/1	3
Cabin Creek	1	Coeur d'Alene	8/1	8/6	6
Turkey Track	1	Coeur d'Alene	8/9	8/9	1
Cross Mountain	1	Kootenai	8/12	8/17	5

FIRE NAME	REGION	FOREST	DATES DISPATCHED	DATES RETURNED	DAYS AWAY FROM BASE
Coeur d'Alene Crew (contd.)					
Tourist Creek	1	Coeur d'Alene	8/17	8/19	3
Teddy Creek	1	Coeur d'Alene	8/21	8/22	2
Box Car Mountain	1	Nezperce	8/24	8/29	6
					29
Flathead Crew					
North Sams	6	Olympic	7/2	7/6	5
Lost Fork	1	Kootenai	7/6	7/7	2
Canyon Creek	1	Flathead	7/30	8/5	7
Squaw Meadows	1	Flathead	8/6	8/9	4
Sky Lakes	1	Kootenai	8/10	8/12	3
Beulah Creek	1	Kootenai	8/13	8/13	1
Cross Mountain	1	Kootenai	8/14	8/16	3
Great Northern Flats	1	Flathead	8/17	8/25	9
Trapper Peak	1	Kaniksu	8/27	9/5	10
					44
Kaniksu Crew					
Edd's Mountain	1	Colville	7/14	7/16	3
Cedar Hill	1	Kaniksu	7/29	8/1	4
Scenery Mountain	1	Kootenai	8/6	8/8	3
Kaniksu Mountain	1	Kaniksu	8/12	8/24	13
Plume Creek	1	Kaniksu	8/25	9/11	18
					41
Lolo Crew					
North Sams	6	Olympic	7/1	7/6	6
Pine Creek	1	Lolo	7/9	7/9	1
Buford	1	Lolo	7/30	7/31	2
Cabin Creek	1	Coeur d'Alene	8/2	8/4	3
Squaw Meadows	1	Flathead	8/6	8/8	3
Reynolds Creek	4	Salmon	8/9	8/12	4
Dry Mountain	1	Colville	8/12	8/15	4
Hot Springs	1	Clearwater	8/16	8/18	3
Kaniksu Mountain	1	Kaniksu	8/20	8/25	6
Dead Mountain	6	Willamette	8/29	9/4	6
Eagle Rock	6	Willamette	9/4	9/7	4
Fish Lake	1	Lolo	9/8	9/11	4
					46

FIRE NAME	REGION	FOREST	DATES DISPATCHED	DATES RETURNED	DAYS AWAY FROM BASE
Nezperce Crew					
Hamby Creek	1	Nezperce	7/11	7/11	1
Canyon Creek	1	Flathead	7/30	8/2	4
Anchor Creek	4	Payette	8/4	8/8	5
Little Pony Meadows	4	Payette	8/9	8/10	2
Crooked Fork #2	1	Clearwater	8/12	8/18	7
Fiddle Creek	1	Nezperce	8/19	8/21	3
North Fork Slate Creek	1	Nezperce	8/21	8/24	4
Hanover	1	Nezperce	8/25	9/1	7
Sundance	1	Kaniksu	9/4	9/12	9
					42
St. Joe Crew					
Willow Peak #1	1	St. Joe	7/12	7/14	3
Outlaw Creek	1	St. Joe	7/25	7/27	3
State	1	Kaniksu	7/30	7/31	2
Cabin Creek	1	Coeur d'Alene	8/1	8/4	4
Willow Peak #2	1	St. Joe	8/7	8/9	3
Cross Mountain	1	Kootenai	8/12	8/16	5
Plume Creek	1	Kaniksu	8/19	8/25	7
Trapper Peak	1	Kaniksu	8/29	9/8	11
					38

The IR crews spent an average of about 40 days away from their home bases on fire suppression and related activity.

The average employment time for all IR crews this season was:

Crew Training	17%
Project Work	23%
Fire Suppression	60%
	100%

Two crews spent as much as 70 percent of the total hours worked during the season on fire suppression.

The safety record of these crews was excellent. There were very few reportable accidents and no lost-time accidents, despite the intensity of effort and long, arduous hours spent on the fireline.

U. S. Department of Agriculture
Forest Service

PERSONNEL EMPLOYED ON FIRE CONTROL ACTIVITIES

UNIT: Region 1

CALENDAR YEAR: 1967

INSTRUCTIONS:

1. Data for Items 1a, 1b, and 2a should be taken from work planning and budget records in the Supervisor's office.
2. Items 1c, 1d, 2b and 2c may be obtained from actual records in the S.O. or from the Ranger District. If obtained from the Ranger having intimate knowledge on use of his men, these items may be estimated. Complete accuracy is not required.
3. Item 3 may be estimated where large numbers of casuals are employed. Since each reemployment counts as a new employment sufficient accuracy can be obtained by sample counts and measurement of time slips.

ITEM NO.	ITEM	NUMBER	
		SUB-TOTAL	TOTAL
1.	Regular appointed personnel		
a.	Full-time fire control *(20 pay periods or more)*	46	
b.	Part-time fire control	363	
c.	Others used on presuppression sometime during year	271	
d.	Others used on suppression *(exclude those reported under a, b, or c)*	2,273	
e.	Total (a + b + c + d)		2,953
2.	Seasonal or short-term personnel		
a.	Regular fire control *(crews, firemen, patrol, lookouts, etc.)*	1,233	
b.	Others *(BD, KV, BR, R&T, etc.)* who spent some time on fire control work	1,419	
c.	Emergency firemen *(exclude those reported under a or b)*	351	
d.	Total (a + b + c)		3,003
3.	Total number of casuals employed on fire suppression *(Each reemployment counts as an employment)*		19,167
4.	Number of casuals *(included in Item 3)* employed for first time *(Ranger's estimate is adequate)*	10,721	
5.	GRAND TOTAL (1e · 2d + 3)		25,123

REMARKS *(if necessary)*

SUBMITTED BY *(Signature)*

TITLE

5100-8 (12/63)

GPO 869-068

SMOKEJUMPING

A highlight of the 1967 season was the extensive use of smokejumping to help combat the many fires within the Region. With a total of 1,687 jumps to 371 fires a new record was established for use of smokejumpers within the Region's area of responsibility. The demand for smokejumpers was so great that personnel from Regions 4, 5, and 6, were detailed to the Region. Also, for the first time in history, smokejumpers from the Bureau of Land Management base at Fairbanks were used.

The season also marked the occupancy of the new facilities at the Interagency Fire Control Center at West Yellowstone. Construction work had progressed far enough that the administration building and dormitory could be utilized. The full complement of 13 smokejumpers was assigned to the base. Although the fire season was light in comparison to that in the northwestern part of the Region, the base manned 19 fires. The activity was in Yellowstone National Park, Shoshone Forest of Region 2, Teton and Targhee Forests of Region 4, and Custer and Gallatin Forests of Region 1. In addition, part of the personnel from the base were assigned to Missoula during the critical fire period in the northern Forests.

The satellite base at Grangeville had a most active season. A complement of 17 smokejumpers was assigned to the base. Several times during the season, it was necessary to reinforce the base with personnel from Missoula. Fire activity from the base consisted of 257 jumps to 80 fires of which 65 were initial attack.

The regularly scheduled assignment of 12 men to Region 3 was made for the period May 12 through July 15. The agreement with the Bureau of Land Management in Alaska to furnish 20 men to bolster their crew was continued. They were in Alaska for the period May 28 through July 15. Additional men were dispatched to assist them during serious fire situations in Alaska. The contingent made 224 jumps to 44 fires and involved over 9,000 man-hours on fire suppression.

The Region's total number of smokejumpers was increased to 188. Training started on May 4 when the overhead and crew for Region 3 were given the standard 1-week refresher course. On June 5, training of 92 new recruits was started and by the end of the session on July 10, there were 74 who completed the course. This also was a record, since it was the largest class to be trained in one session.

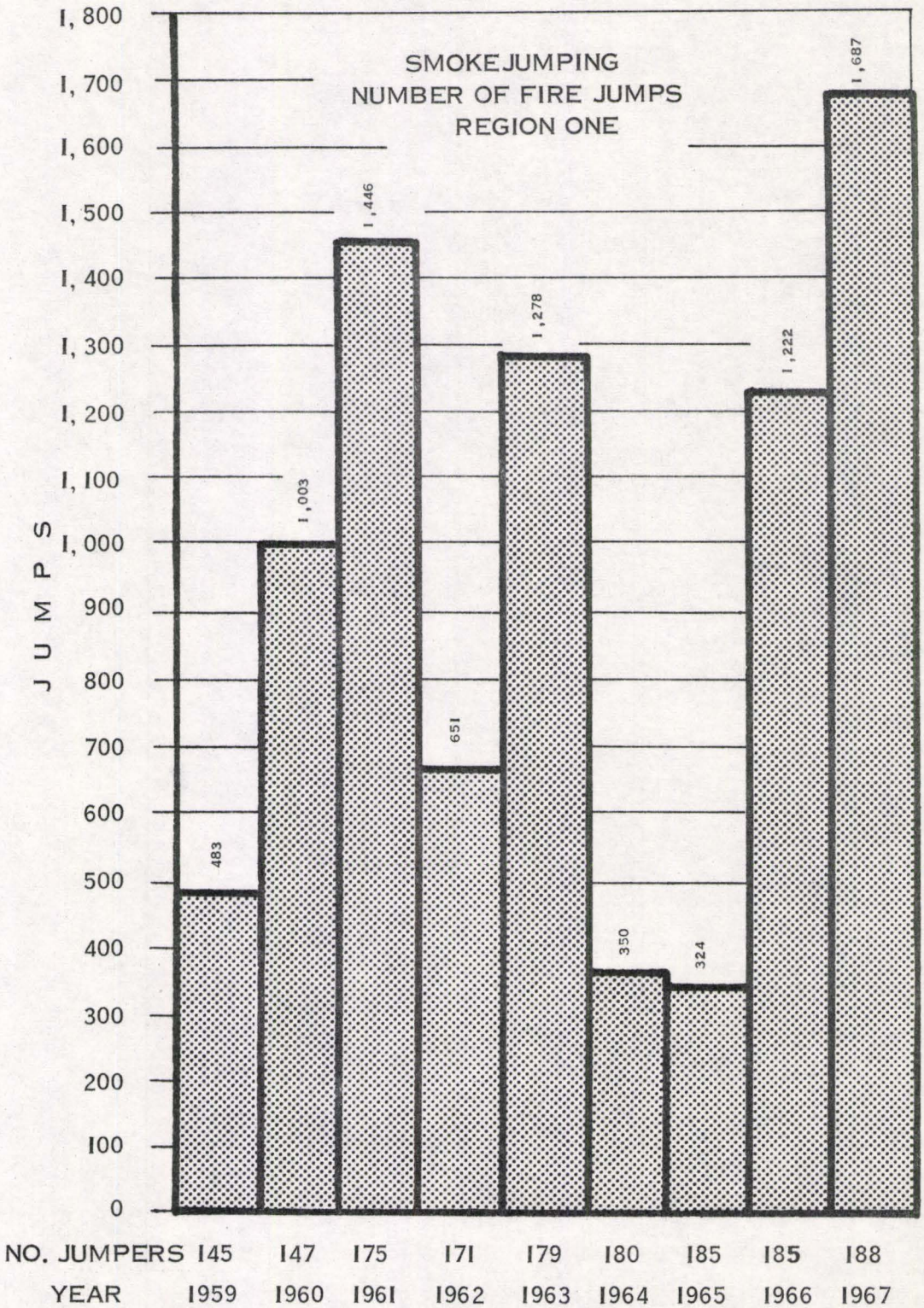
Smokejumper fire action in the Region started on June 18, when two men were dropped on the St. Joe Forest. Activity remained light until the middle of July and then it was heavy until the final jump on October 8. The Colville National Forest was the only Forest of the 16 in Region 1 that did not have smokejumper fire action.

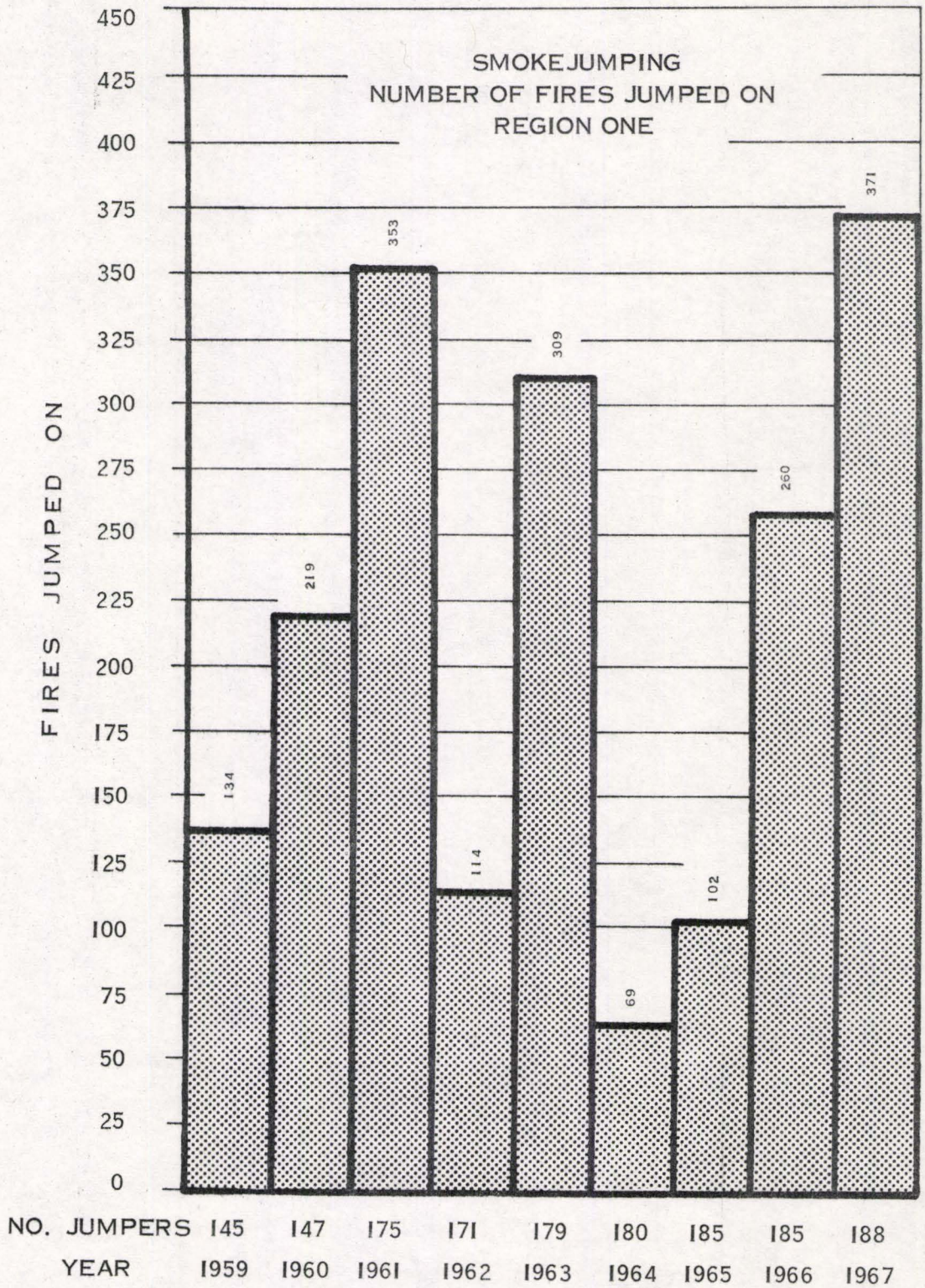
In addition, smokejumpers were called on for initial fire action from the Missoula base by other agencies under cooperative agreements with the Region. Glacier National Park, Flathead Indian Agency, Northern Montana Forestry Association, and Priest Lake Timber Protective Association accounted for 103 jumps to 19 fires. During lulls in the Region's smokejumper fire activity, personnel were sent to Regions 4, 5, and 6 to assist during their critical situation. This use accounted for 206 jumps on 60 fires.

Due to the heavy use of personnel in smokejumping, the ground crew assignments were limited to 13 fires involving 2,500 man-hours.

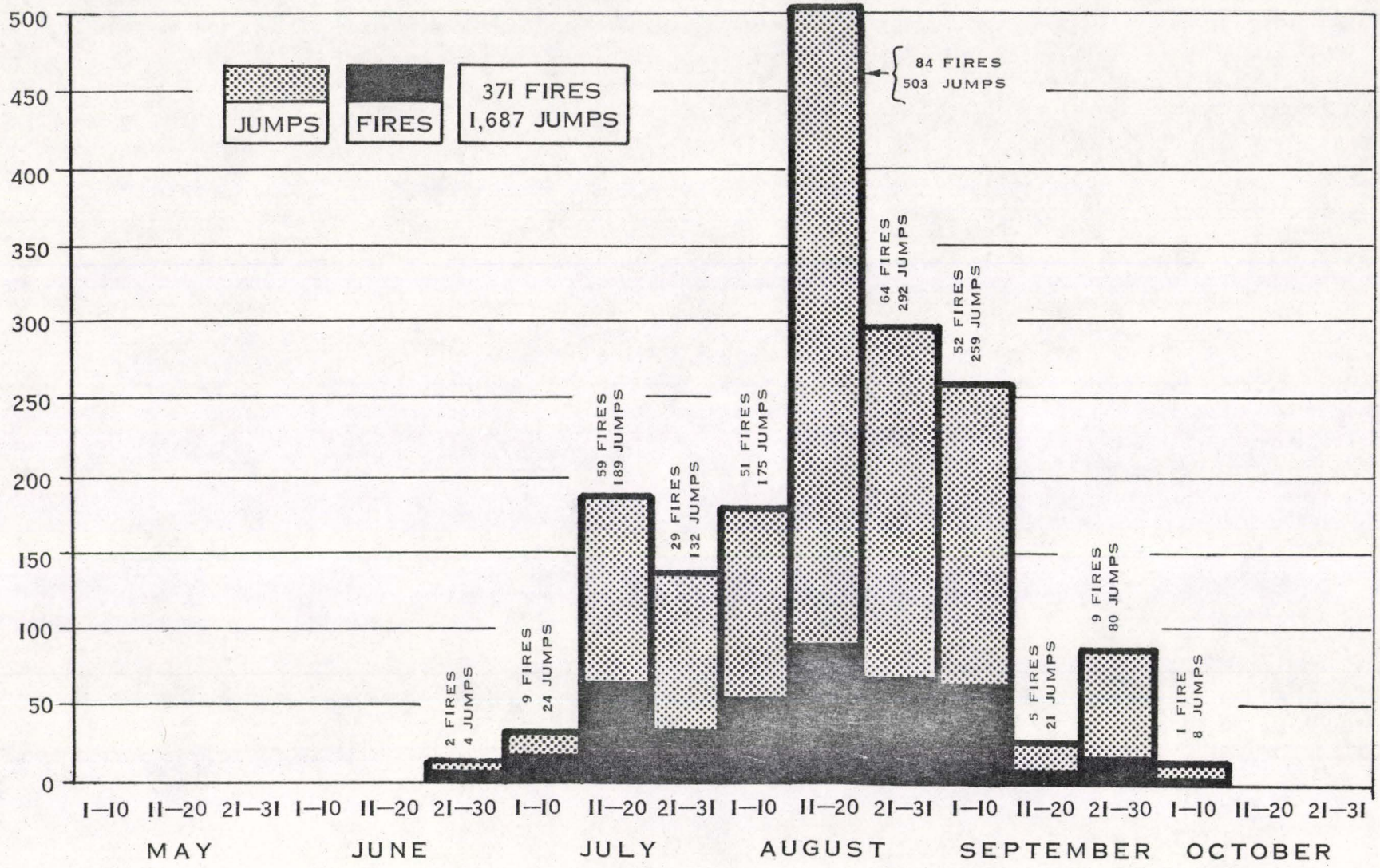
Cargo dropping, air attack, and rescue assignments required many hours of work by the smokejumpers. Rehabilitation of the burns required aerial seeding of thousands of acres. Smokejumpers were used for this important project.

Fire suppression work on all assignments by the smokejumpers exceeded 90,000 man-hours for an all-time high use of this highly-trained, specialized fire control force.

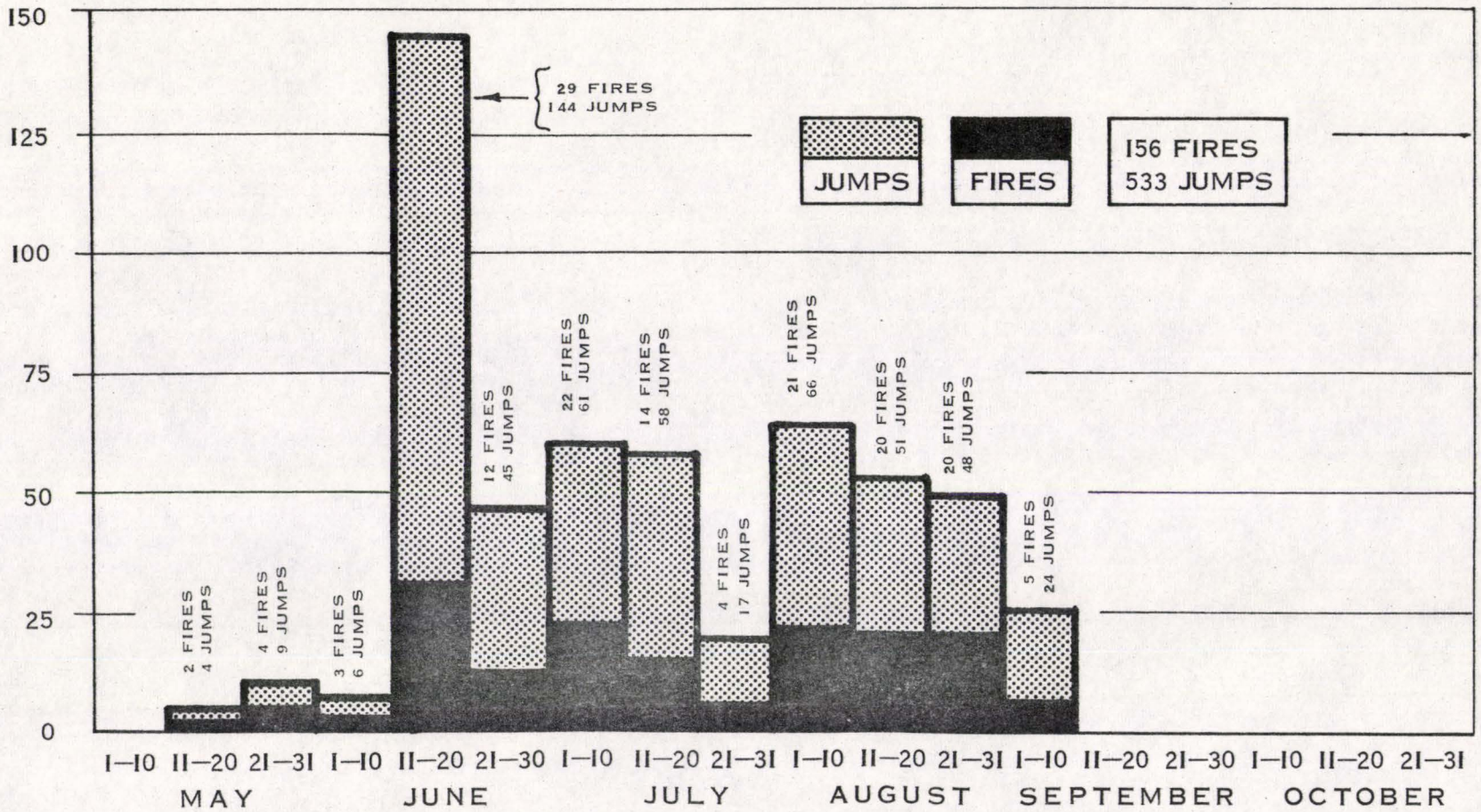

SMOKEJUMPING
NUMBER OF FIRE JUMPS
REGION ONE
JUMPS
1,800
1,700
1,600
1,500
1,400
1,300
1,200
1,100
1,000
900
800
700
600
500
400
300
200
100
0
483
1,003
1,446
651
1,278
350
324
1,222
1,687
NO. JUMPERS 145 147 175 171 179 180 185 185 188
YEAR 1959 1960 1961 1962 1963 1964 1965 1966 1967

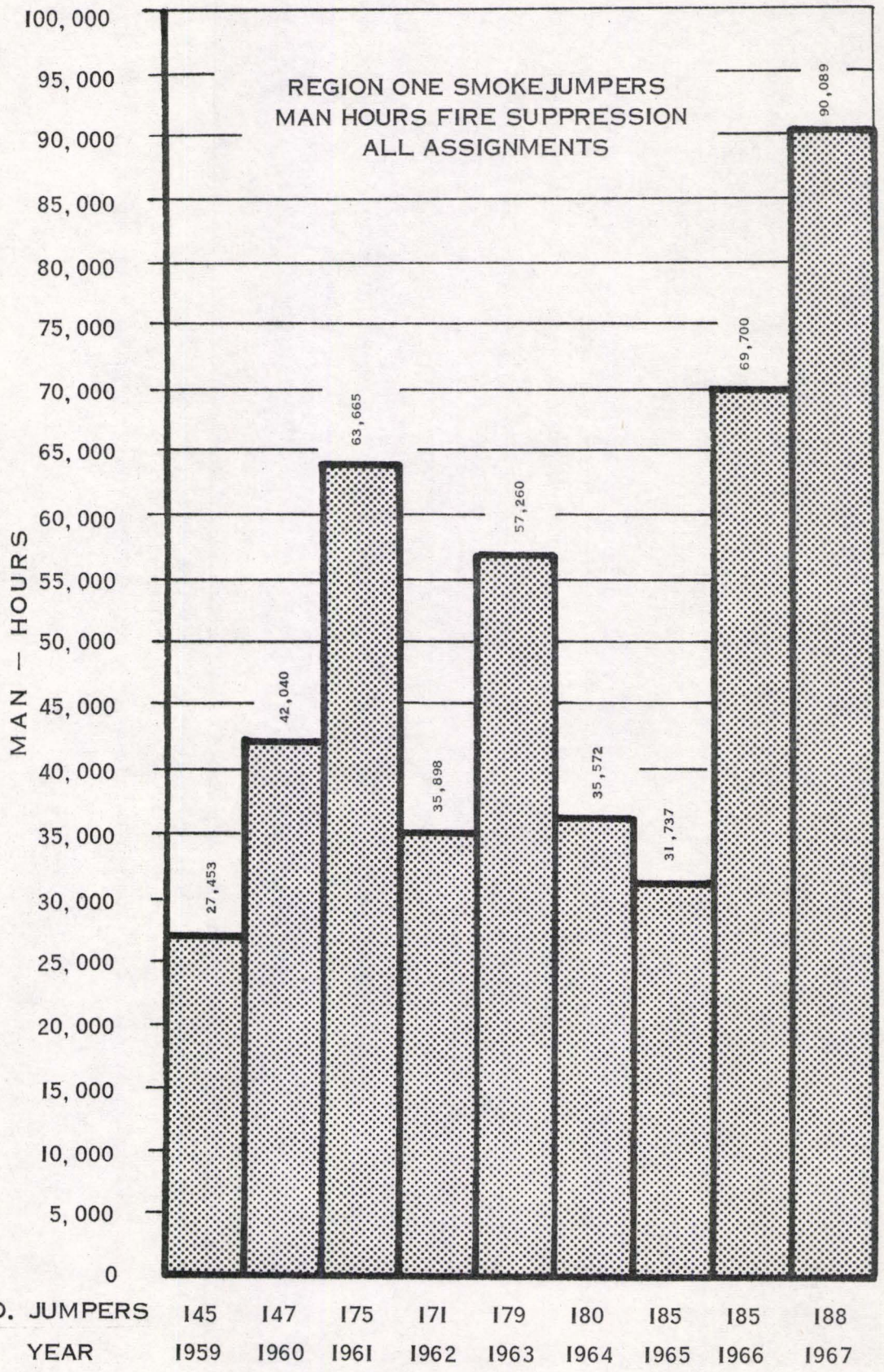

SMOKEJUMPING
NUMBER OF FIRES JUMPED ON
REGION ONE
FIRES JUMPED ON
450
425
400
375
350
325
300
275
250
225
200
175
150
125
100
75
50
25
0
134
219
353
114
309
69
102
260
371
NO. JUMPERS 145 147 175 171 179 180 185 185 188
YEAR 1959 1960 1961 1962 1963 1964 1965 1966 1967

FIRES & JUMPS BY 10—DAY PERIODS — 1967
REGION ONE BASES
(JUMP FIRES ONLY)
WITHIN REGION ONE



FIRES & JUMPS BY 10-DAY PERIODS — 1967
REGION ONE SMOKEJUMPERS
(JUMP FIRES ONLY)
OUTSIDE OF REGION ONE




REGION ONE SMOKEJUMPERS
MAN HOURS FIRE SUPPRESSION
ALL ASSIGNMENTS
MAN – HOURS
100,000
95,000
90,000
85,000
80,000
75,000
70,000
65,000
60,000
55,000
50,000
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
27,453
42,040
63,665
35,898
57,260
35,572
31,737
69,700
90,089
NO. JUMPERS 145 147 175 171 179 180 185 185 188
YEAR 1959 1960 1961 1962 1963 1964 1965 1966 1967

USDA-FOREST SERVICE

SMOKEJUMPER AND HELITACK REPORT

CALENDAR YEAR: 1967

REGION: 1

INSTRUCTIONS:

Item 1 - Permanent bases only. Exclude temporary satellite bases.
Item 2 - Planned strength of unit. Do not include non-fire goers.
Item 3b - Exclude fires where initial attack is by jumpers or crewmen.
Item 5 - For smokejumpers report on fires jumped only. For helitack report only on fires where travel is by helicopter. Include travel time to and from fires.

ITEM	SMOKEJUMPERS		HELITACK
	Home Region	From Other Regions	Crewmen
1. Number of bases	2		None 1/
2. Number of jumpers or crewmen	188		None 1/
3. Number of fires attacked or jumped			
a. Initial attack	276	--	97
b. Follow-up	94	1	168
c. Total	370	1	265
4. Number of man-jumps to fires	1,564	123	19,854 2/
5. Man-days on fires	8,245	369	-- 3/

Remarks *(Use for explanatory notes, if necessary)*

Note: All activity at West Yellowstone Interagency Fire Control Center included in Home Region column. Item 4, From Other Regions, includes 53 man-jumps by smokejumpers from Bureau of Land Management, Alaska.

1/ Region 1 has no regular designated helitack bases.

2/ Includes transportation of men on all fires.

3/ Unable to complete since information is not recorded in the field.

RETARDANT USE

	1961	1963	1964	1965	1966	1967
Gallons dropped	1,078,000	450,000	64,600	39,400	554,000	2,510,000
Fires	324	109	25	14	157	268
Percent of total fires	13.7	5.8	3.1	2.0	9.5	14.5

Use of retardant reached a record high in 1967. As with personnel aircraft, it was necessary to "borrow" air tankers from other Regions for extended periods. Air tankers also flew from bases in Regions 2 and 4. The Bureau of Land Management set up a temporary mix plant at Lewiston, Idaho, for their fires. Several flights were made from this base to Region 1 fires.

Helicopters dropped 118,000 gallons of water and Gel-gard on fires in north Idaho.

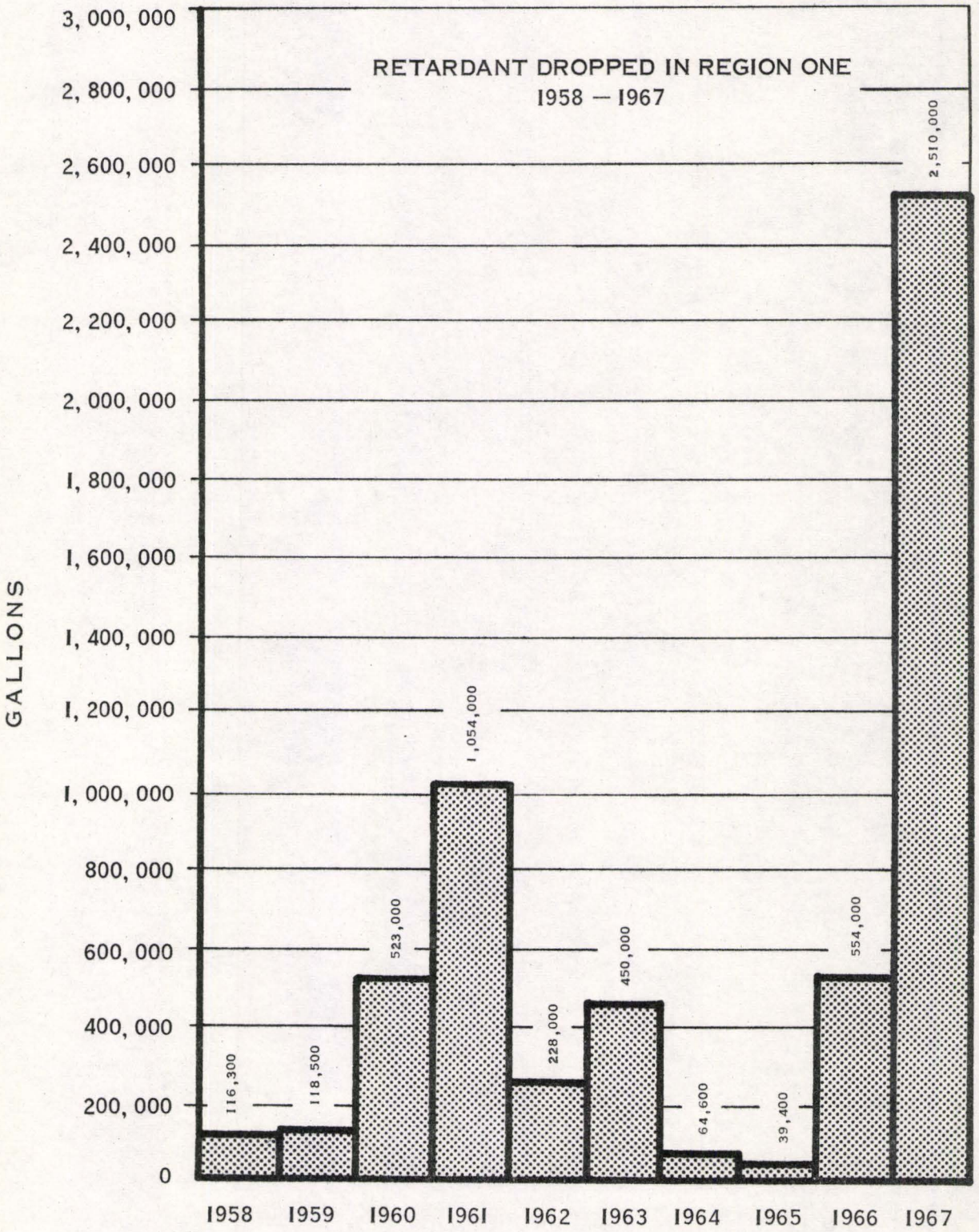
Cooperating agencies and associations requested retardant from Region 1 bases and operated aircraft of their own from these bases as Regional contract air tankers could not keep up with the demand for retardant drops.

Production of retardant at Region 1 bases was:

Coeur d'Alene, Idaho	980,100 gallons
Grangeville, Idaho	201,600
Helena, Montana	32,400
Kalispell, Montana	546,500
Missoula, Montana	495,400
Total	2,256,000 gallons

Retardant from Region 1 bases dropped on other agency fires:

Glacier National Park	247,200 gallons
Flathead Indian Agency	10,400
Priest Lake Timber Protective Association	126,200
Northern Montana Forestry Association	11,800
State of Idaho	4,200
State of Montana	9,600
Blackfoot Protective Association	1,800
Total	411,200 gallons


RETARDANT DROPPED IN REGION ONE
1958 — 1967
GALLONS
3, 000, 000
2, 800, 000
2, 600, 000
2, 400, 000
2, 200, 000
2, 000, 000
1, 800, 000
1, 600, 000
1, 400, 000
1, 200, 000
1, 000, 000
800, 000
600, 000
400, 000
200, 000
0
116,300
118,500
523,000
1,054,000
228,000
450,000
64,600
39,400
554,000
2,510,000
1958
1959
1960
1961
1962
1963
1964
1965
1966
1967

AIRCRAFT USE - FIRE CONTROL

	1961	1963	1964	1965	1966	1967
Fixed-wing aircraft	50	68	90	62	74	136
Fixed-wing hours	13,239	4,204	4,224	3,324	9,650	17,744
Helicopters	17	17	26	20	20	42
Helicopter hours	2,494	1,430	576	416	1,686	5,844
Air tankers	21	17	20	11	19	30

The first fire action involving aircraft use was on June 18. A long period of activity started in early July that resulted in the greatest use of aircraft, both fixed-wing and helicopter, that the Region has recorded.

It was necessary to bring aircraft from other Regions for extended periods to meet the demand for personnel transportation. Supplemental carriers, charter, and airline aircraft were also utilized to transport fire crews and airfreight.

The aircraft carried over 27,000 fire control personnel.

HIGHLIGHTS OF CENTRAL FIRE CACHE WAREHOUSE OPERATIONS

Items	Normal inventory organization	Peak build-up or total issued	Acquired by loan or purchase
Fire hose, 1-1/2"	285,000 Ft.	880,000 Ft.	595,000 Ft.
Fire pumps, "Y", 1-1/2"	171	397	226
Pulaski tools	9,522	23,116	13,594
Sleeping bags (Fabric)	11,526	28,256	16,730
Sleeping bags (Paper)	7,604	29,747	22,143
Manpower	32 (July 15)	269 (Aug. 20)	
25-man disposable mess outfits	160	825	665
Rations, individual	10,000	81,000	71,000

Total outgoing shipments of supplies and equipment to all fires = 5,300,000 pounds, or equal to 66 standard freight carloads.

Repair and replacement = 17 man-years of work to be accomplished before next fire season.

Precooked Frozen Meals For Firefighters

Approximately 15,000 precooked meals were served to Region 1 firefighters during the 1967 fire season.

Specially prepared for the Forest Service, these 1,500 to 2,000 calorie meals were precooked, individually vacuum sealed, and flash frozen for storage. One breakfast and two dinner menus were furnished.

For shipment to a fire, 12 meals were packed in an insulated carton with cups, serving trays, and utensils. They were complete except for beverage and dessert. At the fire, meals were heated before serving for 20 to 30 minutes in a simple steamer devised from a 32-gallon GI can.

These meals were well liked and proved very convenient for furnishing hot meals in fire camps and on the fireline. Costs were minimal for labor and preparation equipment. Air transportation costs were reduced because these meals are lightweight and compact.

A few of the comments from Forest reports were:

> We received many favorable reports on the new frozen meals. We feel they are an excellent addition to the fire cache and should be stocked as a standard item.
>
> Frozen meals were first used on the Cedar Hill fire. This type of meal is ideal for small, short-term fires. Although only a limited variety of menus were available at the time, quality, and quantity were very satisfactory.
>
> Precooked frozen meals were used on two fires this season. The fact that they can be air-delivered with mess boiler and instructions guarantees the first meal and that it will be hot. With the ever-increasing shortage of fire camp cooks, these frozen meals are a revolution in firefighting.
>
> Individual flash frozen meals were used on Kelly Mountain fire July 31. Approximately 50 men ate meals. All thought they were excellent. The Region ran out of these meals early in the season, and they were not available for succeeding project fires. This type meal should be stocked in quantity for the 1968 season.

Man-pack Lighting Unit

A man-pack lighting unit, first tested at spring training camp for smokejumpers, proved very useful for fighting fires at night. The unit weighs 60 pounds, has a 12-foot mast, 500-watt generator, and a 6-hour fuel supply.

During the 1967 fire season, three units were used on two fires to illuminate camp areas, fireline construction, snag felling, and mopup. Each unit provided light for 18 to 25 men on fireline construction or 25 men on mopup. Reports from the fires were most favorable. No doubt, additional units will be required.

Infrared Mapper

The infrared mapper plane based at Boise, Idaho, flew 142 hours on fire assignments in this Region. Its effectiveness as a most important tool to assist the fire boss was proven many times. Sorties were flown over most all of the major fires in the Region. Fire bosses, plans chiefs, and other key overhead need training so they can better understand the value and effectiveness of this new tool. It was used primarily in the suppression stages of the fire. The use of this tool should be expanded to the initial mopup stage where it could be used to locate hot spots and aid in a more effective assignment of crews and equipment.

COOPERATION

Cooperation was excellent between all fire control agencies both in and outside the Region. Never before in the history of Region 1 has the need to draw on outside resources been so great. The Region was, perhaps, fortunate that fire activity was moderate to low in all the other Regions except Region 6.

Region 1 called on the military for assistance to a much greater degree than ever before. If nothing else, this past season dramatically illustrated the ability to marshall resources from other Regions and Agencies in order to cope with a situation that could well fall in the category of a disaster. As a matter of fact, the President did declare north Idaho a disaster area. The following statistics indicate the extent to which we called on the military.

Idaho National Guard

Personnel	200
Vehicles	60 units (1/4-ton jeeps to 5-ton cargo)
Special equipment	kitchen units, shower units, portable aircraft control tower, and communication equipment

Montana National Guard

Personnel	100
Vehicles	30 units (1/2-ton jeeps to 2 1/2-ton cargo)
Special equipment	kitchen units

Army Reserve

Personnel	1
Vehicles	24 units (3/4-ton to 5-ton cargo)
Special equipment	50-ton capacity raft with generator and power boat

U.S. Air Force

Personnel	30
Equipment	Busses (4), aircraft unloading ramp, aircraft crash trucks (2), helicopters (9)

U.S. Army (Regular from Fort Lewis, Washington)

Personnel	379
Vehicles	119 (1/4-ton jeep to 5-ton wrecker)
Special equipment	kitchen units, communications equipment, and shower units

U.S. Army (Regular from Fort Carson, Colorado)

Personnel	15
Equipment	3 helicopters

Other

Equipment	busses (3) from ROTC units in eastern Washington

Press, radio, and television all did an excellent job in presenting the fire prevention program and reporting on the current fire situation. Their excellent coverage was largely responsible for the manner in which the public accepted the unprecedented Forest closures that were imposed. The Region received practically no criticism from the public on the closures.

The Fire Weather Service did an excellent job of meeting the needs for weather forecasting on large fires. They provided mobile units from as far away as Phoenix. Personnel manning these units put in long hours for many continuous days without complaint.

The large fleet of aircraft assembled to move men and equipment illustrates the degree of cooperation achieved with other Regions and Agencies. Without their help it is unlikely that the Region could have gathered this fleet together.

LIVES LOST

Three lives were lost in performance of fire control activities. One Forest Service employee suffered a fatal heart attack en route to a going fire. One Forest Service employee and one contract dozer operator were fatally burned. They were in the process of opening roads as a preattack measure on the Sundance fire. They were overtaken by this extremely fast-moving fire before they could reach their preplanned escape area.

LAW ENFORCEMENT

Three criminal actions were initiated this year and two convictions were obtained.

To date, 34 civil cases have been settled representing collections of $9,403.65. An additional 130 cases have been or will be billed. This represents in excess of $70,000; much of which will be railroad reimbursements.

USDA-FOREST SERVICE

Calendar Year: 1967

Region: 1

LAND OWNERSHIP PROTECTION REPORT

(Summary of acres by states)

STATE	INSIDE FOREST SERVICE PROTECTION BOUNDARIES								NATIONAL FOREST LAND PROTECTED BY OTHERS
	PROTECTED BY THE FOREST SERVICE							S&P LAND PROTECTED BY STATE AND FS *(Under mutual assistance agreements)*	
	State and Private Land *(Include county and municipal land)*				Other Federal Land	National Forest Land	Total		
	Fee Basis	Offset Basis	Reimbursement Suppression Costs Only	Without Reimbursement					
Montana	2,440,401	27,513	115,892	406,826	8,586	16,549,017	19,548,235		182,548
Idaho	869,677	34,566	--	44,977	89,554	6,645,441	7,684,215		205,304
Washington	318,956	82,734	--	35,910	17,291	1,135,113	1,590,004		78,032
North Dakota	--	--	--	--	--	--	--		1,104,438*
South Dakota	--	--	--	--	--	73,489	73,489		155,426*
Total	3,629,034	144,813	115,892	487,713	115,431	24,403,060	28,895,943		1,725,748

5100-9 (Rev. 12/60)

GPO 903499

* National Grasslands